

MAKING THE MOVE TO OS X?

With Our Guide, You'll Be Feeling at Home in No Time, p. 74

Macworld

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March 2002

Macworld

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Incorporating MacUser



Feel at Home in Mac OS X

CHRISTOPHER BREEN There's no need to worry about the move from OS 9 to OS X. Your transition will be smooth if you follow our tips for sharing data, finding fonts and drivers, connecting to the Internet, printing, setting up local networks, and more.

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Go Pro with iDVD 2

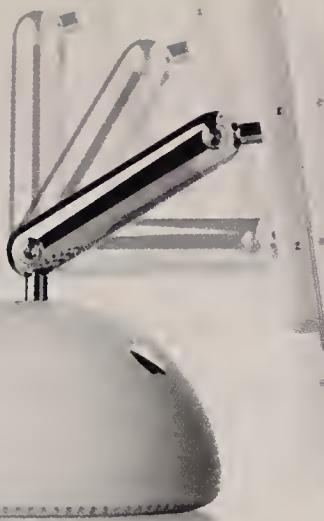
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On the Cover

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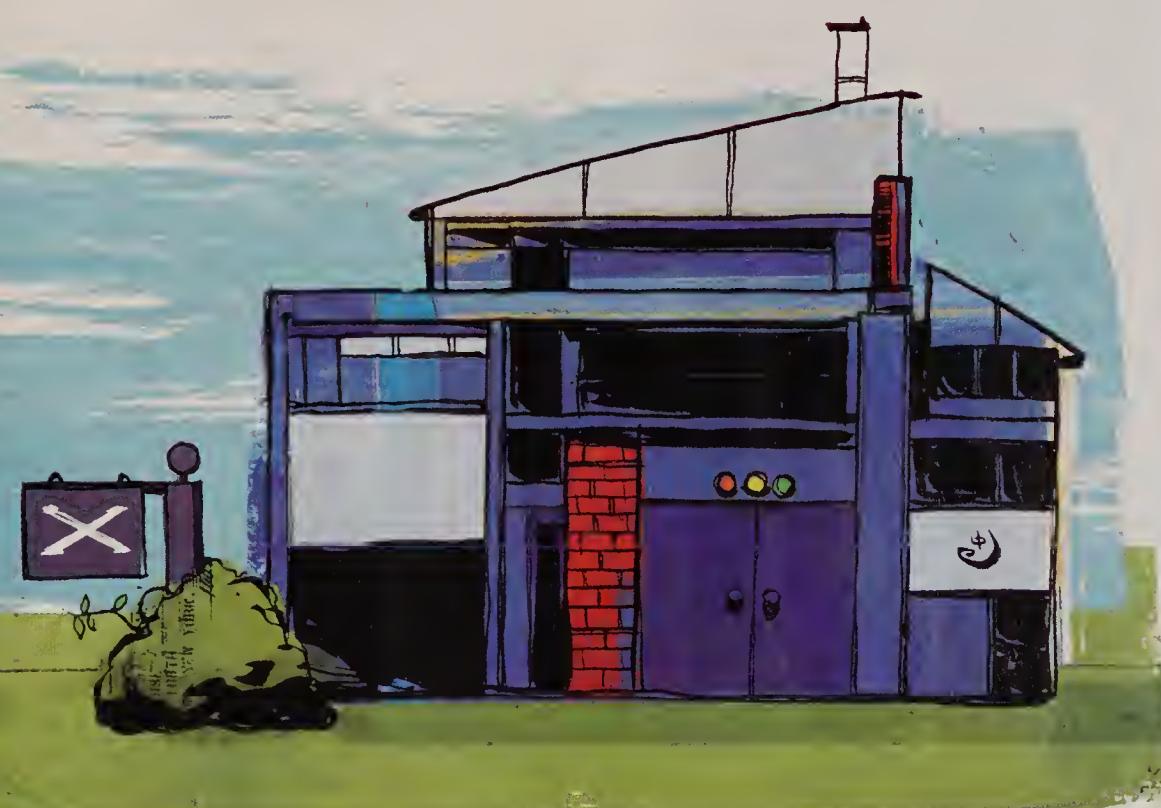
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Check out our coverage of the new iMac, the iBook, and iPhoto, as well as other show announcements.

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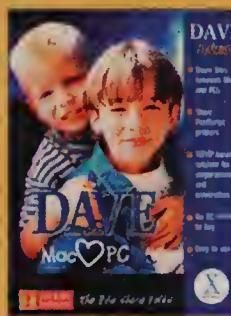
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- PostScript Level 2 & PCL 6 compatible
- 136 PostScript fonts, 80 PCL fonts
- 16 MB RAM expandable to 256 MB
- 1st year Platinum Exchange
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- 10/100Base-T Ethernet, USB, ECP Bi-directional Parallel, RS-232 Serial

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Elite 21DN

- 21 pages per minute
- 1200 x 1200 dpi resolution
- Maximum Print Area 8.5" x 14"
- Letter/A4, legal, envelope
- 550-sheet motorized Universal Tray with built-in level indicator
- PostScript Level 2 & PCL 6 compatible
- 136 PostScript fonts, 80 PCL fonts
- 32 MB RAM expandable to 256 MB
- 1st year Platinum Exchange
- EtherTalk, TCP/IP, NetWare
- 10/100Base-T Ethernet, USB, ECP Bi-directional Parallel, RS-232 Serial
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- 35 PostScript fonts, 15 PCL fonts
- 250 downloadable fonts
- 16 MB RAM expandable to 64 MB
- 1st year Platinum Exchange
- EtherTalk, LocalTalk®, TCP/IP
- Ethernet (10Base-T, AAUI), Bi-directional Parallel

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- 1200 x 1200 dpi resolution
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- 500-sheet Universal Tray
- PostScript Level 2 & PCL 5 compatible
- 35 PostScript fonts, 15 PCL fonts
- 250 downloadable fonts
- 64 MB RAM
- 1st year Platinum Exchange
- EtherTalk, LocalTalk, TCP/IP
- Ethernet (10Base-T, AAUI), Bi-directional Parallel

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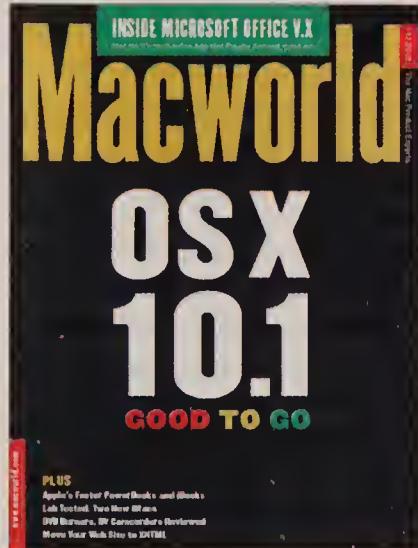
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Forums and Feedback



Unfinished Business

Apple's work is never done—especially to hear our readers tell it. The company rolls out the performance-boosting OS X 10.1, and the only question they have is when we'll see more OS X-native applications. The iMac redefines how a personal computer looks and acts. "Great," the readers say, "but isn't it about time for a complete overhaul?" Proof that we're not resting on our laurels, articles about CSS and XHTML have earned us a "job well done" from our readers. Which is good, since our work is never done either. **m**

Waiting for the Apps

HAROLD PACE I use two basic programs on my pair of G4s—Photoshop and QuarkXPress. Neither Adobe nor Quark has wasted any time writing a version for use on slow, unreliable, white-elephant OS X. Yet *Macworld* is so anxious to hold on to Apple's goodwill that you are covering only the development of this monumental failure ("OS X Comes of Age," December 2001), to the exclusion of OS 9 programs. Take care of your readers who actually use their Macs and don't have the time to do Apple's R&D for it.

STEVE MORRIS As Apple migrates to OS X and long-term users have to learn a new operating system from scratch, why would we learn OS X and not Windows XP? Fifteen years ago, I learned Mac OS because it was better than DOS. Today, as I am forced to make this choice again, two things are clear: OS X's superiority over XP is marginal, and Apple has

5 percent of the market. I didn't choose to start over and learn to troubleshoot a new operating system, but since I have to, I would be nuts to ignore the other 95 percent of the world.

Office Odds and Ends

DAN PAYMAR Erick Tejkowski extols RealBasic's virtues ("Supercharge Your Office," in "Office Remodeling," December 2001). We recently purchased RealBasic because of its ability to compile a program for both the Mac and Windows platforms from the same source code. RealBasic is fine for making simple applications that consist mostly of user interaction, but our project involves a lot of number crunching, so computation speed is a critical factor. After using FutureBasic for several projects and switching to RealBasic for a project only because FutureBasic didn't support Windows, we found several shortcomings: RealBasic has no INC and DEC directives; it arbitrarily pro-

hibits Boolean operations on integer variables, which can cause a redundant subtraction and waste time; and it does floating-point arithmetic only in single- or double-precision binary (4 or 8 bytes total). FutureBasic allows working in decimal to avoid conversion errors, and allows precision up to 100 decimal digits.

DOUGLAS THIEL Do all Mac OS X users think different on an island? I'm referring to "Office Remodeling" (December 2001), which made absolutely no mention of sharing files with the other 95 percent of computer users. Please tell me that files created with the Mac Office suite are totally interchangeable with those running on the Windows side of the world, and vice versa.

As with Office 2001, Windows users can read files created in Office v. X, and vice versa.—Ed.

Party On, Darwin

MARK S. COHEN As a scientist, I have long administered a heterogeneous environment of Unix and Mac systems. We do our documents on the Mac and our science on the workstation. Darwin isn't the uninvited but tolerated guest that Andy Ihnatko describes ("Life of the Party," *Ihnatko*, December 2001); Darwin is the party. My PowerBook G4 is now running every major Unix app we had on our Suns, AlphaStations, and SGIs, and running them faster. The integration into our Unix environment has been quick and almost seamless. My big wish now is that Apple would release its own X-Server, but you can get acceptable ports from the Xfree86 Project foundation. Darwin will convert the Mac platform from the *continues*

computer for the rest of us different-thinking users to the mainline one with the most productive consumer base.

My iMac, Right or Wrong

 **MATT SCHNEIDER** After reading your review of Apple's iMac 600 and iMac 700 Special Edition (*Reviews*, December 2001), it seems to me that you just want to get rid of the iMac. The iMac changed the computer market. It's three years old. How can you improve something so perfect? I own a 700MHz iMac, and it cruises a lot faster than most iBooks. The little iMac is a great choice for businesses in need of computers that network easily, run OS X without a problem, and include a built-in monitor.

 **SAM BRAFF** The iMac doesn't fit in anymore. Look at the PowerBook, the iBook, the Power Mac, and the Apple Displays. The iMac has the only CRT monitor in the entire Apple line.

 **LARRY COLLEN** In your review of the new iMacs, you referred a few times to *bouncing*. I have no idea what the word means in that context.

When you launch an application in OS X, an icon appears in the Dock and bounces up and down until the program has fully loaded. The longer it takes to launch, the more times the icon bounces.—Ed.

"Secrets" to Success

 **MICHAEL KELLY** I would like to thank you for your excellent *Web Publishing Secrets* columns. David Sawyer McFarland's November 2001 article on Cascading Style Sheets (CSS) inspired me to get rid of those old **font** tags on my Web site and start using style sheets. Jeffrey Zeldman's December 2001 article on making the switch from HTML to XHTML was the first clear explanation I have seen of the differences between the two markup languages. I now have a Web site styled by CSS and written in XHTML, and I have you to thank.

 **JOHN DWIGHT** What a great article by Jeffrey Zeldman. I'm having a problem with his advice, however. After I got all my ducks in a row

in terms of XHTML, my pages—specifically my image-layout tables—have stopped lining up correctly in Netscape 6.2 for OS X. They preview fine in Internet Explorer 5.1 for OS X. Changing the document type definition back to HTML 4.1 Transitional returns my layout to normal. What did I do?

You may have discovered a bug. If you can duplicate it in Mozilla—the open-source software on which Netscape 6 is based—report the bug at <http://bugzilla.mozilla.org>. If all your pages validate as XHTML 1.0 or HTML 4.1 Transitional, and if changing the DOCTYPE declaration to HTML 4.1 solves the display problem, you may want to change it across the site (while leaving up a nonpublic version with the XHTML document type for the Netscape and Mozilla engineers to ponder). Or you can publish the page as it is, a valid XHTML document that looks great in 99 percent of your audience's browsers.—Jeffrey Zeldman

Flat's Where It's At

 **ROB JACOBS** You missed one drawback in recommending the QPS Que Fire DVDBurner Pro (*Reviews*, December 2001). You can't stack other branded peripherals on top of its roundish case. I've got a different drive in the same case design. It's neat looking, but awkward when one has lots of peripherals. The Que drive must be at the top of the stack. I'll take a plain, boring rectangular case any day—even a beige one.

The Mechanic's Dilemma

 **FRANK HASSSLER** As an avid mountain biker for the past ten years, I was intrigued to see a review of the Break It, Fix It, Ride It Mountain Bike Repair CD-ROM in "Macworld's 2001 Holiday Gift Guide" (*Mac Beat*, December 2001). You failed to consider one important issue, though, when comparing the \$30 CD-ROM with a \$30 bicycle-repair book: the book is more mobile than a computer, and you don't have to worry as much about damaging or dirtying it. Do

you take your beautiful Mac into the garage or your dirty, broken mountain bike into your computer room?

Double Trouble

 **JON EILERS** I am constantly confused by articles like "Double Your Pleasure" (*Mac Beat*, December 2001) that attempt to explain multiprocessing. There seems to be a direct contradiction. Mathew Honan writes, "In OS 9, MP applications split their tasks between two processors." But he also says, "When one chip reaches the limits of its processing power, applications that are MP optimized are not able to send some of their work to the other chip." Does this mean certain software is written for OS 9 in such a way that it takes advantage of two processors, even though OS 9 doesn't allow any use of the second processor?

Applications written for multiprocessing in OS 9 automatically divide their tasks between both processors. But the OS itself doesn't divide tasks between processors. While applications written for multiprocessing can divide tasks between processors in OS 9, when one processor becomes "full," neither the OS nor the application can automatically reroute tasks to the other processor.—Mathew Honan

 Post your comments on our forums at www.macworld.com or send them by mail to  Letters, *Macworld*, 301 Howard St., 15th Fl., San Francisco, CA 94105; via fax to 415/442-0766; or electronically to letters@macworld.com. Please include a return address and daytime phone number. Due to the high volume of mail we receive, we cannot respond personally to each letter. We reserve the right to edit all letters and posts. All published letters and forum comments become the property of *Macworld*.

CORRECTIONS

In "Farewell, My Hard Drive" (*Forums and Feedback*, January 2002), the correct Apple Technical Information Library case number is 25249.

The fastest available PowerBook G4 has a processor speed of 667MHz ("Time to Desert Your Desktop?" page 50, January 2002).

Final Cut Pro is an Apple product ("Bright Ideas," *Mac 911*, January 2002).

The new iMac.





Here we go again.

Four years ago we introduced the first iMac. It changed the way people use computers. It changed the way people look at technology. Some people even said it changed the world. Six million iMacs later, we're doing it again.

The new iMac is designed around a stunning 15-inch LCD flat screen that's brighter, sharper and easier on the eyes than old-fashioned CRT displays. And instead of requiring your neck, shoulders and back to do the adjusting, the new iMac's screen literally floats in the air — allowing you to effortlessly adjust its height or angle with just a touch.

Inside its ultra-compact base lives the fastest iMac ever, with a Pentium-crushing 800MHz G4 processor that blazes through the most demanding applications. And our revolutionary SuperDrive™ that lets you burn your own custom CDs and DVDs. Plus USB, FireWire® and Ethernet ports to make connecting to digital cameras, camcorders, iPod,™ printers and DSL or cable modems a snap.

The new iMac was designed from the ground up to run Apple's breakthrough new operating system, Mac® OS X. And to run Apple's award-winning suite of software for digital photography, music and movies. And, of course, to be the fastest way onto the Internet. But, most of all, it was designed to be an iMac — the easiest-to-use computer in the world.

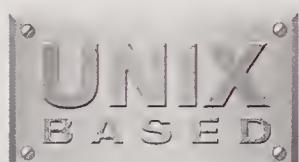


Mac OS X. Suddenly, other operating systems seem so 20th century.

If you wanted to build the ultimate operating system for the new millennium, you'd combine a rock-solid UNIX base with breathtaking graphics and Apple's legendary ease of use.

So that's exactly what we did.

Presenting Mac OS X. With its stunning new Aqua® interface, OS X makes even the most complicated tasks remarkably easy. But don't let the simplicity fool you. With every click of the mouse you're actually commanding an advanced, crash-proof and secure UNIX-based operating system. Most



Fortune 500 companies, governments and universities rely on UNIX for their mission critical applications. And now, so can you.

And we didn't stop there. OS X is full of forward-looking innovations that make your life easier and a whole lot better. Like the "Dock," which provides an instant visual shortcut to the things you use most—applications, documents, photos, you name it. And "Sheets" that stay firmly attached to the windows that own them, so it's always clear which window will be printed or saved. And the new Finder, with Column View, that lets you navigate through gigabytes of folders without losing your way. And "Instant-on," which wakes up your new iMac from its power saving "sleep" mode almost instantly, so it's always ready to work when you are. There's even one backwards-looking innovation—OS X runs virtually all existing Mac applications perfectly.

With its power, simplicity and grace, Mac OS X leaves other operating systems firmly in the past.



Meet the Dock. Place it at the bottom or side of your screen and you have an instant visual shortcut to the things you use most. Just drag and drop your favorite icons onto the Dock to customize it for the way you work. There's nothing like it on PCs.





Introducing iPhoto. Shoot like Ansel. Organize like Martha.

Digital cameras are revolutionizing the way we take pictures. Now, Apple provides the missing link to revolutionize the way we save, organize, share and enjoy them.

Just plug your camera* into iMac's USB port and iPhoto automatically imports your photos, catalogs them, stores them and displays them on your screen. Simply drag your mouse, and iPhoto magically grows or shrinks your photos right before your eyes. So you can view individual shots in greater detail for precise cropping. Or see hundreds of photos on the screen at once — and quickly scroll through thousands to find the one you're looking for. Gone are the days of scavenger hunts to find pictures on your hard drive.

iPhoto lets you easily organize your photographs into albums — birthday, vacation, wedding, whatever — for easy retrieval. (If you're familiar with iTunes, think "playlists" for pictures.) Sharing and enjoying them is a cinch, too: Push one button to watch them in a beautiful, full-screen slide show, accompanied by your favorite music. Email them to friends. Print them on your ink jet printer. Order Kodak prints over the Internet. Or even automatically design and order a linen-covered, hardbound book of your photos, printed just for you.**

How much, you wonder, does this remarkable new software cost? If you're a Mac OS X user, iPhoto is a free download at apple.com. But if you're a PC user, there's really nothing like it at any price.



iPhoto makes it easy to import, save, organize and share every digital photograph you take.



Design and order a custom, hardbound book of your photos, right from your Mac.

You have 206 bones in your body. Surely, one of them is creative.

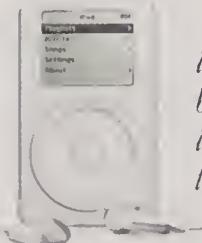
It doesn't take a lot of effort to enjoy digital music and movies—just the new iMac and a little creativity.

With Apple's award-winning iTunes software you can be your own DJ. iTunes makes it simple to "rip" your CDs and put your entire music collection right on your iMac. Just drag and drop to make playlists of your favorite songs. Listen to them on your iMac, or push one button to burn your own custom CDs that you can play in your car or portable CD player.

Or, for the ultimate in portability, get yourself an iPod. Just plug it into your iMac, and iTunes automatically downloads all your songs and playlists into iPod at blazing FireWire speed (an entire CD in a few seconds). Then just choose a pocket and take your entire music collection with you wherever you go.

For making movies, Apple's award-winning iMovie™ software lets you be the director. Plug your digital camcorder into iMac's FireWire port and transfer your video in pristine digital quality. Use iMovie's intuitive drag-and-drop interface to cut out the boring parts, add Hollywood-style effects—like cross-dissolves and scrolling titles—and lay in a soundtrack from your favorite CD. Then share your movies with friends and family by making a custom DVD using our aptly named SuperDrive and remarkable iDVD software.* You'll be amazed at how professional your movies and DVDs look and how easy it is to create them.

With the new iMac, an ounce of creativity goes a very long way.



iPod. The first MP3 player to pack a mind-blowing 1,000 songs and a 10-hour battery into a stunning 6.5-ounce package you can take with you wherever you go.*



With iMovie and iDVD you can turn your movies into instant classics and create custom DVDs that play on almost any standard DVD player.



A special message to Windows users: Welcome.

Over the years, there have been more than a few misconceptions about Macs. Let's take a look at some of the most popular ones.

Myth 1: Everyone uses Windows.

Fact: If you're an accountant, you're most likely surrounded by beige Wintel boxes. But if you work in nearly every creative field, you most likely use a Mac. Like in graphic arts, advertising and publishing. Or in Hollywood. Or in science-based industries like biotech. Or in education, where half of the computers are Apples. Or if you are President of the United States (our two most recent presidents, a Democrat and a Republican, both use Macs). Even 25% of America's lawyers use Macs. In all, over 25 million people use Macs in their homes, offices and schools every day.

Myth 2: Macs don't work with PCs.

Fact: Simply untrue. Every day millions of documents, emails and instant messages are sent between Macs and PCs. Word documents, Excel spreadsheets and PowerPoint presentations exchanged. Emails delivered and instant messages shuttled back and forth. This isn't news because it happens silently, daily, with no fanfare. That's because all Macs are designed to work seamlessly with PCs and connect into PC networks to easily access files and folders. The rest of the world should get along so well.

Myth 3: The software I need isn't available for Macs.

Fact: There are over 15,000 applications available for the Mac, in every category imaginable.



Contrary to popular belief, Mac and Windows get along perfectly together. They run the same software. They talk to each other. It's a small world after all.

Productivity programs from Microsoft Office to FileMaker. Design programs from Photoshop to Maya. Filmmaking tools from Final Cut Pro to After Effects. Finance programs from Quicken to MYOB. And games from The Sims to Tony Hawk. But if you do encounter that rare program which isn't available for Mac, you can still run it right on your Mac using Virtual PC.[†] Still think there's something you're missing? Go to apple.com and check for yourself. We promise not to say, "we told you so."

Myth 4: Macs don't run Microsoft Office.

Fact: Quite the opposite. Not only does a brand new version of Microsoft Office run on the Mac, but—and this is according to the company that made it—Office v.X for Mac OS X is actually better than its Windows cousin, with features available only on the Mac. Microsoft Office documents are fully compatible between Mac and Windows. So when you create an Excel spreadsheet or a Word document or a PowerPoint presentation on a Mac, you can send it to someone with a PC and it will open perfectly. And vice versa.

Myth 5: Windows has caught up with the Mac.

Fact: It can't be denied that Microsoft has made a good business out of copying the innovative Mac OS. And, truth be told, Windows XP is their best effort to date. But Mac OS X has sent them back to the drawing boards. Particularly with respect to graphics, everything digital (like music, movies and photography), ease of use and elegance. In other words, all the things that make a state-of-the-art operating system, well, state-of-the-art. And we're not the only ones who think so. Consider critics like the *Detroit Free Press*, who recently proclaimed: "The new OS X for Mac runs circles around Windows XP." Or ZDNet's David Coursey, who praises Mac OS X as "The nicest operating system I've ever seen."

Myth 6: Macs are far easier to use than PCs.

Fact: Guilty as charged.



\$1,299	\$1,499	\$1,799
15" active-matrix LCD	15" active-matrix LCD	15" active-matrix LCD
700MHz G4 with Velocity Engine™	700MHz G4 with Velocity Engine	800MHz G4 with Velocity Engine
128MB RAM	256MB RAM	256MB RAM
40GB hard drive	40GB hard drive	60GB hard drive
CD-RW drive	Combo drive (CD-RW/DVD-ROM)	SuperDrive (CD-RW/DVD-R)
AirPort® ready	AirPort ready	AirPort ready
Internal speaker	Internal speaker and Apple Pro Speakers	Internal speaker and Apple Pro Speakers

One of the most revolutionary parts of the new iMac is its price tag. For about the same price as CRT-based PCs, the new iMac is designed around a stunning 15" flat screen, and features a blazing-fast G4 processor, the remarkable OSX operating system and Apple's award-winning suite of software for digital photography, movies and music. Learn more at apple.com. Or visit one of our new Apple stores in your neighborhood, or your nearest authorized Apple reseller.



The new iMac.

*For a complete list of supported cameras visit www.apple.com/iPhoto. **Book and print ordering services available in U.S. and Canada only (English version only); fees apply. *SuperDrive required. 4 min. per song/160Kbps. #Titles sold separately. MSRP. ©2002 Apple Computer, Inc. All rights reserved. Apple, the Apple logo, AirPort, Aqua, Final Cut Pro, FireWire, iMac and Mac are registered trademarks and iMovie, iPod, iTunes, SuperDrive and Velocity Engine are trademarks of Apple Computer, Inc. Other product and company names mentioned herein may be trademarks of their respective companies. For more information, call 1-800-MY-APPLE or visit www.apple.com.

special report

Macworld Expo San Francisco 2002



The iMac: Flat Is Where It's At

BOLD NEW LOOK AND FASTER PROCESSOR HIGHLIGHT OVERHAULED COMPUTER

When Apple decided to develop a flat-panel iMac, it could have taken the easy way out. The company could have removed the CRT monitor from the existing design, replaced it with a flat-panel display, and called it a day.

Of course, if it had followed that path, Apple's design team would've had to find a place for the logic board and most of the other components. With all those parts attached to the back of an LCD screen, the final product would've been nothing more than a rehash of the design idea behind 1997's Twentieth Anniversary Mac—and it wouldn't have taken advantage of the lightweight, thin nature that makes flat-panel displays so appealing.

So Apple went in another direction. The result is an all-new iMac with a 15-inch flat-panel display—on top of a flexible stainless-steel neck—that hovers over a white, domed computer. In addition to its striking new look, the iMac also packs a powerful punch, thanks to its G4 processor. And by offering an optional DVD-burning SuperDrive, Apple has created a consumer desktop computer that offers some of the high-end capabilities of its Power Mac desktops.

Flattering Flat-Panels

The iMac's most noticeable feature is its monitor, a 15-inch LCD screen with a 1,024-by-768-pixel resolution. Floating above the iMac's base, the screen looks delicate, as if the slightest touch

would send it toppling over. But looks can be deceiving. The iMac's sturdy neck lets you tilt the screen up and down, or turn it 180 degrees from side to side, using just your fingertip. But once you're done adjusting the display, the neck holds it firmly in place. And the system is solid enough that you can lift the entire iMac, including its extremely dense base (the system weighs in at just under 22 pounds), by the neck as you remove it from the box.

Putting all that weight in the 10.5-inch-diameter base ensures that the iMac won't topple over; more importantly, the base houses a complete computer system. The pristine white unit, which looks like a volleyball

continues

that's been sawed in half, holds the logic board, the processor, and all other components except the monitor.

The optical drive—a CD-RW, a combo drive (DVD-ROM/CD-RW), or a SuperDrive (CD-RW/DVD-ROM/DVD-R), depending on the model—opens at the front of the base, just below the silver Apple logo. Apple has replaced the slot-loading drive of past iMac designs with a tray-loading model; push a button on the keyboard, and the tray opens toward you.

The power button is on the base's left side, near the back. The ports (as well as a security slot) can also be found in the rear. The new iMac features the following ports: a speaker jack; a headphone port; a power plug (which connects directly to the wall,

X Box

The new iMac ships with the following OS X-native software:



Entertainment
Otto Matic
World Book Encyclopedia



Internet
EarthLink
AOL

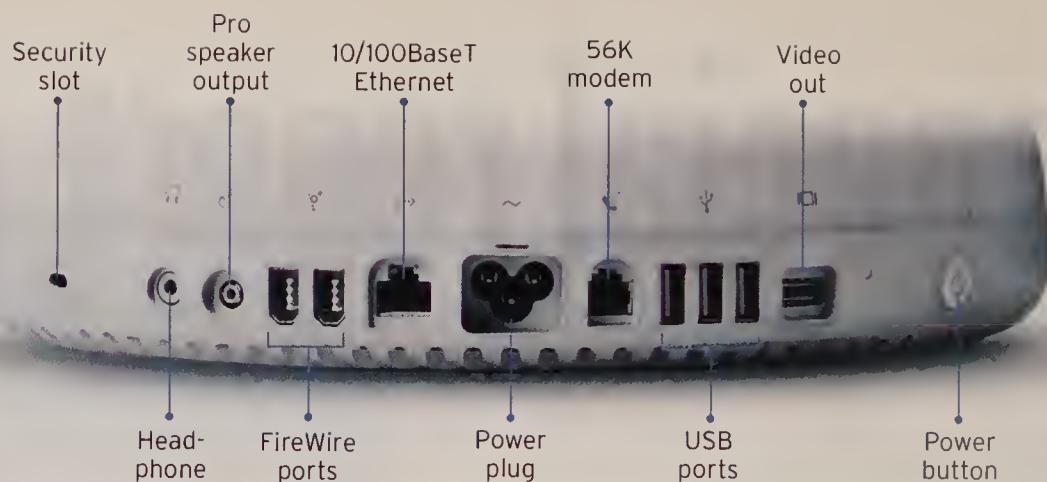


Lifestyle
iPhoto
iTunes
iMovie
iDVD*



Productivity
AppleWorks
FaxSTF
Quicken 2002 Deluxe

*Ships on SuperDrive-equipped model only. The iMac ships with OS X as its default operating system. Along with the applications that come with OS X—such as Acrobat Reader, Internet Explorer, and QuickTime Player—the iMac includes a bundle of several native programs.



Port Land Apple supposes you'll need the iMac's two FireWire and three USB ports to connect digital devices, such as cameras, MP3 players, and DV camcorders.

eliminating the need for a heavy power brick); a 10/100BaseT Ethernet port; a modem port; the same video-out port found on the new iBook (you'll need a separately sold adapter to connect it to a mirrored VGA display); two FireWire ports; and three USB ports (four if you plug in the iMac's all-white Apple Pro Keyboard, which also serves as a two-port USB hub). The FireWire ports share a single bus; two of the USB ports share a bus, while the other shares its bandwidth with the iMac's internal 56K modem.

Inside the Base

Apple figures that you'll need all those ports to hook up a slew of digital devices, such as cameras, camcorders, and MP3 players. To increase the power in what Apple CEO Steve Jobs has touted as "the ultimate digital hub," Apple replaced the old iMac's G3 processor with a G4—all the better to power applications such as iMovie, iDVD, and the newly introduced iPhoto (see "Picture This").

In addition to a G4 processor, the base contains a custom-designed circular motherboard, featuring a 100MHz bus and an Nvidia GeForce2 MX graphics processor. Also aboard is a

cooling fan, made necessary by the iMac's dense engineering and the heat of its high-speed CPU. However, Apple says the fan is as quiet as a whisper during normal use (and the fan cranks up to full speed only when the temperature is very warm).

Like its predecessor, the latest iMac is expandable—but only to a point.

The new iMac is a far cry from the machine that debuted in 1998.

Flip the computer over, and you'll find an access cover, held in by four captive screws, at the bottom of the base. Under the access cover is a user-upgradable slot for additional memory—the iMac can support as much as 1GB of RAM—and an AirPort card. Silhouettes show where the Dual Inline Memory Module (DIMM) and AirPort card go, so you can install them without having to refer to a manual. (If you want to max out the iMac's RAM, you'll need to order it with 512MB installed on the internal, factory-

continues

iMac: Then and Now

MODEL	DATE RELEASED	PROCESSOR SPEED	RAM	HARD DRIVE	COLOR	PORTS	OPTICAL DRIVE	MONITOR
Original iMac	May 1998	233MHz	32MB	4GB	blue	2 USB ports	24x CD-ROM	15-inch CRT
New iMac	January 2002	700MHz	128MB	40GB	white	3 USB ports, 2 FireWire ports	24x10x32x CD-RW	15-inch LCD
		700MHz	256MB	40GB	white	3 USB ports, 2 FireWire ports	12x8x32x CD-RW/8x DVD-ROM	15-inch LCD
		800MHz	256MB	60GB	white	3 USB ports, 2 FireWire ports	8x4x24x CD-RW/2x6x DVD-R	15-inch LCD

In with the new...



In with the newer...



TechTool Pro 3 is the super utility for your Macintosh. Besides repairing and recovering data, TechTool Pro can help you circumvent problems in the first place. Our new virus detect and repair feature, as well as our software conflict check feature, lets you keep your computer in tip-top shape. When booted from the included emergency CD, you can even check, repair and optimize your OS X computer.

Every day, more and more Macintosh professionals are choosing TechTool over other system utilities. In fact, even Apple Computer includes TechTool Deluxe with every copy of their AppleCare™ Protection Plan. Simply put, TechTool Pro 3 is the most complete and powerful troubleshooting utility available for your computer. Why would you settle for anything less?

For Apple's next-generation operating system, you'll need a next-generation disk utility. That's why Micromat has introduced Drive 10, the first and final disk utility for Mac OS X. Problems with your drive? Drive 10 can repair almost any drive problem with one simple click of your mouse. All within OS X's native environment.

While Drive 10 is a new product, it is derived from TechTool Pro, Micromat's world-class diagnostic and repair utility. Using TechTool's time-tested routines as well as some new routines developed exclusively for OS X, Drive 10 offers many tools for checking and repairing any drive on your system. Don't entrust your OS X drive to ancient utilities. Protect your data and drive safely with Drive 10.

Micromat Inc.

800-829-6227

707-566-3831

info@micromat.com

www.micromat.com

continued from page 30

accessible RAM slot and then add your own 512MB module on the outside slot, bringing the machine up to a full gig of RAM.)

Out with the Old?

The newest iMac is a far cry from the machine that debuted in May 1998 (see "iMac: Then and Now"). Everything, from processor speed to installed memory to the optical drive, has been changed—with one exception: the iMac still features a \$1,299 starting price.

Apple will release three configurations of the new iMac, with the \$1,799, 800MHz model set to ship by the time you read this. The \$1,499 and \$1,299 700MHz models will follow in the next two months.

While Apple plans to phase out the old iMac, the CRT, G3-powered models won't disappear right away. Apple will continue to sell the \$799 and \$999 iMacs as low-cost options, until the price of LCD screens falls.

It's clear, though, that Apple hopes its entire iMac line will one day sport flat-panel displays—and Mac OS X. To that end, Apple will ship the new iMac with OS X as the default operating system (though users will be able to switch the default to OS 9 if they choose). All the software included on the new iMac runs natively in Mac OS X as well (see "X Box").

The Bottom Line

After the success of Apple's original iMac design, the pressure was definitely on the company's designers and engineers to envision something just as radical and remarkable as the original. Faced with high expectations, they didn't have the odds in their favor, but this new iMac proves that it's unwise to bet against the people who design and build Apple hardware.—PHILIP MICHAELS

The Different Picture

Unlike the iMac, the iBook didn't undergo a massive redesign this time around (after all, it got its most recent makeover just last year). But the slender laptop gets a new feature that will come as a relief to Mac users who strained to see type on the iBook's 12-inch screen—a larger display.

Apple has released a 600MHz iBook with a 14-inch TFT XGA active-matrix display. Featuring 1,024-by-768-pixel resolution, the 14-inch screen should be easier on the eyes for Mac users who found that the type was too tiny on the 12-inch display.

Adding a 14-inch display to the iBook increases its size ever so slightly. It's 12.7 inches wide by 10.2 inches deep, as opposed to the 11.2-by-9.1-inch dimen-

sions of the 12-inch-display model. And the 14-inch model weighs in at just a hair under 6 pounds, one pound heavier than the other version. But the larger size allowed Apple to include a larger battery, expanding the reported battery life in the 14-inch display iBook to six hours from five hours. And the new model retains the 1.3-inch thickness that has made the iBook such a popular portable. The 14-inch-display iBook sells for \$1,799.

In other iBook moves, Apple has reduced the price of its 500MHz model to \$1,199. It has eliminated the 600MHz, 15GB configuration, which cost \$1,499, and offers in its place a 600MHz model with a 20GB hard drive for the same price.—PHILIP MICHAELS

Book Smart

PROCESSOR SPEED	BUILT-IN RAM	STORAGE	OPTICAL DRIVE	SCREEN SIZE (IN INCHES)	DIMENSIONS (IN INCHES)	WEIGHT (IN LBS.)	PRICE
500MHz G3	128MB	15GB	CD-ROM	12.1 TFT XGA display	11.2 x 9.1 x 1.3	4.9	\$1,199
600MHz G3	128MB	20GB	CD-RW/DVD-ROM	12.1 TFT XGA display	11.2 x 9.1 x 1.3	4.9	\$1,499
600MHz G3	256MB	20GB	CD-RW/DVD-ROM	14.1 TFT XGA display	12.7 x 10.2 x 1.3	6.0	\$1,799

MACWORLD CONFERENCE & EXPO: BEST OF SHOW

At each Macworld Expo trade show, *Macworld* and MacCentral.com sort through the many new software and hardware products that debut during the event and pick the most-exciting ones. Here are the winners from January's Macworld Conference & Expo in San Francisco:

- **Apple** (800/692-7753, www.apple.com): iMac and iPhoto
- **Adobe** (800/833-6687, www.adobe.com): LiveMotion 2.0
- **Asanté** (800/303-9121, www.asante.com): FriendlyNet 5037 Accelerated Cable/DSL Router
- **CMS** (800/327-5773, www.cmsproducts.com): ABS automated back-up system
- **Creo** (604/451-2700, www.creo.com): Six Degrees project-management tool
- **E-on** (877/972-7345, www.e-onsoftware.com): Vue d-Esprit 4 3-D-scenery application
- **Kaidan** (215/364-1778, www.kaidan.com): 360 One optical system
- **MacSoft** (800/229-2714, www.wizworks.com/macsoft): Sid Meier's Civilization III
- **MInd Avenue** (866/646-3283, www.mindavenue.com): AXELedge 3-D-creation application for Web authoring
- **NCSoft** (www.lineage-us.com): Lineage: The Blood Pledge multiplayer game
- **Roxio** (866/280-7694, www.roxio.com): Toast with Jam for OS X
- **QPS** (800/559-4777, www.qps-inc.com): Que 007 CD-RW/DVD-ROM FireWire combo drive
- **Smart Technologies** (888/427-6278, www.smarttech.com): SynchronEyes 2.0 training and collaboration tool

DESIGN GENIUS

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Knows all the graphics packages
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Hasn't owned a tie since 1998

DIRECTOR OF COMMUNICATIONS

Prints color and B/W documents
Copies all documents or bound reports
Faxes are received on plain paper
Scans in color at the touch of a button
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No matter where or how you work, our all in one MFC's are designed to work for people like you. And with over 10 Mac or PC compatible models to choose from, finding the one with the performance and price you're looking for is easy. Some even have the ability to print from your digital camera media card! If you need a multifunction solution that works almost as hard as you do, you don't need five separate machines, all you need is the right one.



A VARIETY OF MODELS AVAILABLE AT: Office Depot, OfficeMax, Staples, J&R ComputerWorld, Global Computer Supplies, MicroCenter, Fry's, PC Connection, MicroWarehouse, CDW, Insight, PC Mall, Quill, Viking, Dell, Amazon.com and Gateway.com

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PICTURE THIS

Anyone who's used a digital camera knows that for all their conveniences, they're still a pain to handle once you've downloaded images to your Mac. Enter iPhoto, Apple's latest application, which attempts to improve the digital-camera experience in the same way that iMovie enhanced creating videos with your digital camcorder.

The free, OS X-only iPhoto launches whenever you plug in a compatible USB digital camera. Clicking on the application's Import button brings in your photos. If you've got an archive of pre-iPhoto images on your hard drive, or if you use a scanner or incompatible digital camera to import images to your Mac, you can still import those—just choose Import from the File menu.

iPhoto displays thumbnails of all your imported photos in its large photo pane, and a slider lets you adjust the thumbnails' size. To the left of the iPhoto window is a pane that looks suspiciously like iTunes's playlist pane; it lets you group photos into any number of "albums." Click on Photo Library to see your whole library or on Last Import to view your most recently imported batch of images.

iTunes made MP3 access easy through a point-and-click navigation system that let you limit your MP3 list by artist, album, or both. There's a similar principle at work in iPhoto: you can create as many as 14 different keywords and apply as many of them as you like to each photo. Then you can filter your library and

albums by selecting or deselecting keywords in the Keyword toolbar.

With iPhoto's Edit button selected, you can crop images (even optionally constraining them to appropriate aspect ratios, such as those for 4-by-6-inch prints), remove red eye, and even strip out color to create a black-and-white effect. iPhoto always keeps an original version of your photo, so if you don't like the changes you've made in Edit mode, you can choose Revert To Original from the Edit menu.

Share and Share Alike

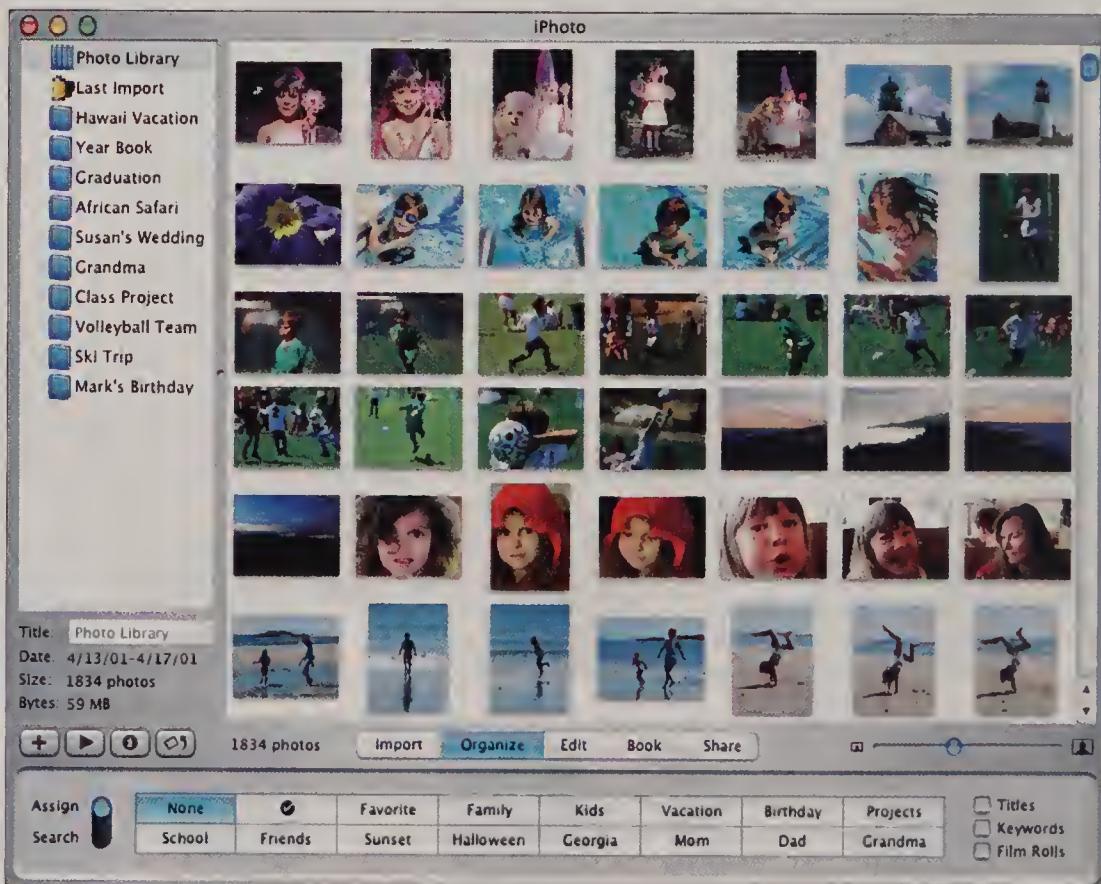
The most impressive iPhoto features can be found beneath the Share button. From there, you can print photos using a print dialog box that seems much simpler than those that come with most photo printers. The Export button lets you do a mass export of image files, including automatic scaling to a maximum size you can choose—useful if you're building a Web site or e-mailing some images to friends. A HomePage button links to Apple's iTools online service, letting you create (with just a few clicks) Web-based slide shows and albums to be hosted on Apple's own iTools Web servers.

iPhoto can show off photos in a full-screen Slide Show mode, complete with background music (Apple provides a couple of background songs, but you can also choose your own). Slide Show uses Mac OS X's Quartz technology in the same way

The Share button launches iPhoto's most impressive features.

that the Mac OS X screen saver does, to fade between different pictures.

iPhoto also makes it easy to order professional prints, either for yourself or to mail to a relative or friend. The Order Prints button links you to an easy-to-use order form for Kodak's online photo-finishing service. You can also lay out your images to create a high-quality hardcover photo book, via the Order Book button. These services are available only to North American Mac users for now, though Apple plans to expand them to other countries.—JASON SNELL



All Thumbs Instead of forcing you to sift through indecipherable file names, iPhoto displays thumbnails of imported photos, letting you find images at a glance. You can adjust thumbnail size from very small icons to large previews.

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Coming Soon?

MACWORLD'S SECOND ANNUAL LOOK AT THE YEAR AHEAD IN MACS

The only thing about the Mac universe that you can predict with any certainty is that Steve Jobs will show up at the next Macworld Expo keynote wearing a black turtleneck. Anything beyond that is just guesswork. Apple's wild 2001 proves that trying to forecast the goings-on in Cupertino is folly.

Nevertheless, for the second consecutive year, we've pulled together a panel of Mac experts willing to throw caution to the wind and tell us what we can expect from Apple in the coming year. A month before Apple unveiled new products at January's Macworld Expo, we asked our panel to make four fearless forecasts for 2002: the most-exciting hardware and software releases, the biggest OS X-related story, and the most-important Apple news.

Our panelists have made their best guesses. But if the next 12 months turn out to be as unpredictable as 2001 was, who knows—a certain CEO could show up for his next keynote dressed in plaid.—PHILIP MICHAELS

finally time to start using Mac OS X.

APPLE NEWS: That the Apple Macintosh has regained 10 percent market share.

HENRY BORTMAN

MACWORLD CONTRIBUTING EDITOR

Hardware: The flat-panel iMac.

Software: QuarkXPress for OS X and Photoshop for OS X.

OS X NEWS: QuarkXPress for OS X and Photoshop for OS X.

APPLE NEWS: QuarkXPress for OS X and Photoshop for OS X.

CHRIS BREEN

MACWORLD CONTRIBUTING EDITOR

Hardware: The Return of the Son of the Bride of iMac—or whatever Apple decides to call the successor to its all-in-one consumer Mac.

Software: OS X, again. OS X isn't finished, and each major upgrade brings

Apple's next-generation OS one step closer to surpassing the Mac OS of old.

OS X NEWS: Apple will create computers that can run *only* with OS X—OS 9.2 and earlier will not be an option on these models.

The only way to really move the adoption of OS X forward is to force people to use it. And the only way to do that is to join the OS and Macs at the hip.

APPLE NEWS: If Apple does indeed force its customers to use OS X, that's it. The success or failure

of OS X will determine Apple's future.

ADAM C. ENGST

MACWORLD CONTRIBUTING EDITOR

Hardware: The expansion of the iPod line, including an iPod that can store and display digital photos and QuickTime movies; an in-dash docking bay for an iPod so that you can listen to MP3s in the car; an iPod with a larger hard disk and an AirPort module; a FireWire docking bay on the next iMacs to hold your iPod; and a belt clip.

Software: Internet Memory, a personal archiving program that tracks all your Internet traffic and indexes it for later searching and retrieval. RAM's cheap, so why waste neurons on stuff the Mac can remember for you? Internet Memory will also do intelligent analysis of your usage patterns and work to make what you do easier.

OS X NEWS: Secret documents will be unearthed showing that OS X is actually based almost entirely on A/UX.

APPLE NEWS: Steve Jobs runs for governor of California. And wins. And continues being CEO of Apple and Pixar in his spare time.

JIM HEID

MACWORLD CONTRIBUTING EDITOR

Hardware: I'm hoping for a redesigned iMac, though I'd settle for a Power Mac G5.

SOFTWARE: Final Cut Pro for Mac OS X.
OS X NEWS: The arrival of native applications that address video, audio, and music producers. These are the folks who can benefit the most from OS X's multitasking and multiprocessor support—but alas, they're likely to be among the last who see native apps.
APPLE NEWS: From a business perspective, continuing profitability and a gradual increase in market share. From a technical perspective, the surmounting of the 1GHz barrier and the switch to OS X as the default on new Macs.

JOHN MARKOFF

NEW YORK TIMES

SENIOR WRITER

HARDWARE:

An Apple-designed cellular phone-PDA to integrate with Steve Jobs's digital-hub strategy.

SOFTWARE: A next-generation information-retrieval technology that will advance Sherlock and integrate even more tightly with OS X.

OS X NEWS: An embedded version of Mac OS X to run in the iPod 2.0 and other new Apple peripherals.

APPLE NEWS: The Apple stores will be dubbed a successful strategy.

SCHOLLE SAWYER

McFARLAND

MACWORLD CONTRIBUTING EDITOR

HARDWARE:

A 1GHz Mac.

SOFTWARE: QuarkXPress and Photoshop for OS X. Then it will finally be possible for publishers to give OS X a shot, and Mac users may really move over to the new OS in force. And if we're lucky, some as-of-yet unforeseen products that come to us from Unix.

OS X NEWS: The ubiquity of OS X software.

APPLE NEWS: That the Mac community has successfully completed the transition

to OS X, and Apple has survived that transition.

JOHN RIZZO

MACWINDOWS.COM

PUBLISHER

HARDWARE: The revamped iMac. This should be the anticipated flat-panel model, which will end Apple's involvement with CRT displays forever. Expect an option for the DVD-R/CD-RW SuperDrive and a new look.

SOFTWARE: A corporate networking suite for OS X that includes a virtual private networking client, and authentication protocols for proxy servers that will give it com-

plete compatibility with Windows-based business networks.

OS X NEWS: OS X will become the default OS shipping on Macs.

APPLE NEWS: The Macintosh will begin to gain market share due to the lukewarm reception of Windows XP and a growing library of business software for OS X. It won't be a huge gain, but it will be important as the mark of the beginning of a trend.

FRANKLIN N. TESSLER

MACWORLD CONTRIBUTING EDITOR

HARDWARE: The Power Mac G5.

SOFTWARE: Either Virtual PC for Mac OS X or Photoshop for Mac OS X.

OS X NEWS: OS 10.5 will fill in almost all of the gaps in OS 10.1.1.

APPLE NEWS: The company will close some of the stores that opened in 2001.

More Info: www.macworld.com/2001/12/19/predict-recap.html

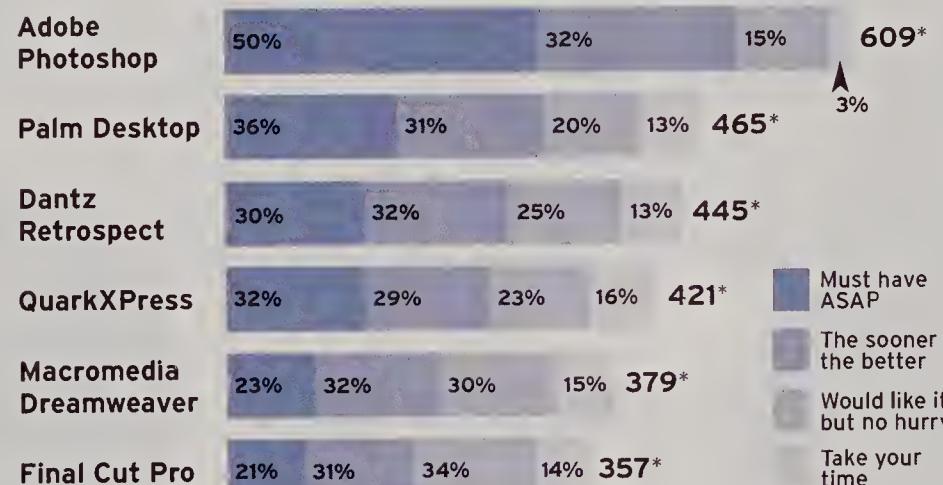
How did last year's prognosticators fare with their 2001 forecasts? Find out.

2002: THE READERS SPEAK

It isn't hard to find out what new hardware and software Mac users are pining for. All you have to do is ask.

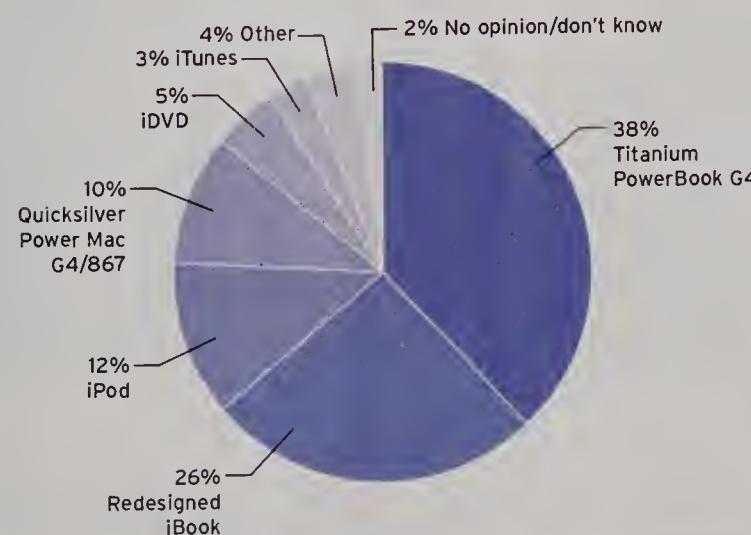
With the help of market-research firm Karlin Associates, we surveyed 824 *Macworld* subscribers during the last week of November 2001. We asked these readers to name the most important Apple product to ship last year. Then we asked them to look ahead to 2002 and tell us the one product they wanted to see released and which application they wanted to appear in OS X-native form.—PHILIP MICHAELS

WHICH APPLICATION WOULD YOU MOST LIKE TO SEE RUNNING NATIVELY IN OS X, AND WHEN?*



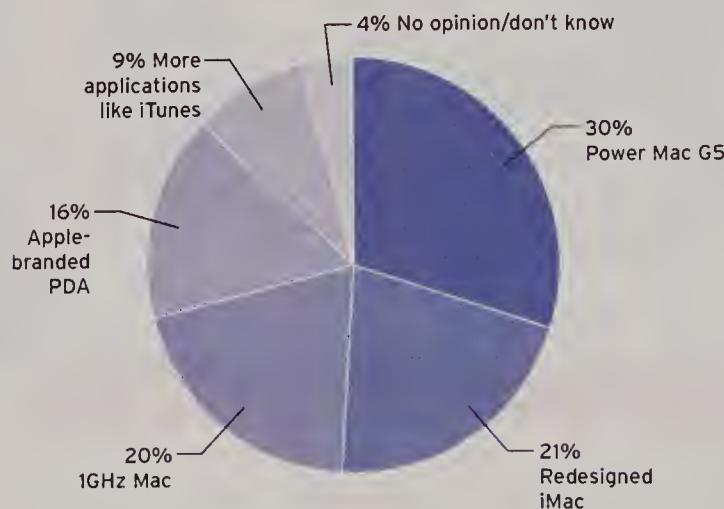
* Respondents were allowed to list more than one title.

WHICH WAS THE MOST IMPORTANT APPLE PRODUCT OF 2001?

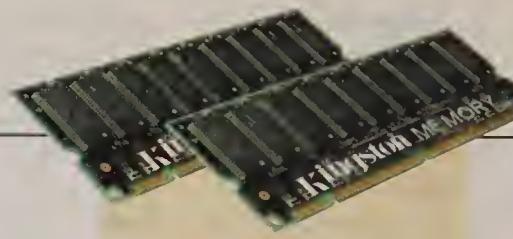


Source: Karlin Associates

WHICH PRODUCT WOULD YOU MOST LIKE TO SEE APPLE RELEASE IN 2002?



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POD PROTECTION

The iPod has struck many Mac fanatics as a thing of beauty. The trouble is, beauty can be fleeting. That stainless-steel casing can become smudged with fingerprints every time you pick up the iPod, and its Lucite face is susceptible to the occasional scratch—small blemishes, to be sure, but not so minor when you've paid \$399 for a product whose appeal lies as much in its looks as in its ability to store 5GB of music.

One of the surest ways to keep your iPod out of harm's way is by keeping it in a carrying case—Apple doesn't include one, but they're now available from several accessory makers. JR Hill's iPod Sleeve is a full-grain leather carrying case with a belt clip; the deluxe model comes with a clear plastic space for the display and an opening for the jog wheel. Other World Computing's Pod Protector sports a



similar design; it's a leather case with clear vinyl windows to protect the iPod's screen and buttons. The iPod Connection Kit from Dr. Bott provides cables to hook up your iPod to home and car stereos—as well as a black nylon carry pouch. WaterField

Designs' iPod SleeveCase (pictured here) features an outer nylon shell with Lead Indium trim along the bottom, neoprene lining for shock protection, and a removable belt clip. WaterField's Super Dooper model adds coated mesh and a covered groove that lets you control the iPod without taking it out of the case. At press time, Incase Designs was developing a line of iPod cases that it expected to make available in January.

No matter which model strikes your fancy, a good case can protect your iPod from dust, grime, and the occasional accidental drop. Beauty may be fleeting, but with a little extra protection, you can help your iPod keep its good looks just a bit longer.—PHILIP MICHAELS

Carry On, iPod

COMPANY	PRODUCT	CONTACT	COMPANY'S ESTIMATED PRICE
Dr. Bott	iPod Connection Kit	877/611-2688, www.drbott.com	\$50
JR Hill	iPod Sleeve	800/258-3654, www.jrhillandcompany.com	\$30
	iPod Sleeve Deluxe		\$40
Incase Designs	<i>To be announced</i>	888/283-8288, www.incasedesigns.com	<i>To be announced</i>
Other World Computing	Pod Protector	800/275-4576, www.otherworldcomputing.com	\$28 (with clip, \$30)
WaterField Designs	iPod SleeveCase	877/546-1040, www.sfbags.com	\$25
	Super Dooper iPod Case		\$40

MAC STUFF

Back to the Drawing Board

Mac users looking for devices that capture whiteboard doodles and save them



on their Macs can now draw from several resources. The latest is the eBeam, from Electronics for Imaging (877/463-2326, www.e-beam.com); it features capture pods that attach to your whiteboard and electronic sleeves that house standard dry-erase markers. As you draw, the marker sleeve sends signals to the capture pod, re-creating your etching on your Mac. The technology is the same as that used by the \$599 mimio, from Virtual Ink (877/696-4646, www.mimio.com). So what's different? The two pods that make up eBeam's \$599 System 1 and the \$699 single-pod System 3 (\$749 for a USB model) are each smaller than the mimio's capture bar. The mimio features greater Mac functionality—including the ability to export files to QuickTime and iMovie, and (in version 1.6) OS X compatibility. But Electronics for Imaging is drawing up plans for an OS X-native version of the eBeam software, which it hopes to release this year.—PHILIP MICHAELS

iPod in Danger

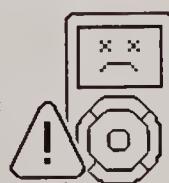
Apple exalts the iPod's ability to place 1,000 songs in your pocket. But since it comes without a clip or strap, there's a chance those 1,000 songs might plummet from your pocket to the earth below. To see whether the iPod can withstand an active lifestyle, we took the MP3 player jogging and cycling—and dropped it.

The Jogging Test Drop 1: With the iPod's back parallel to the ground, the fall caused a few scratches.

Drop 2: Its top-edge ports facing skyward, the iPod sustained some dents but continued to play.

The Bicycle Test Drop 1: Dropping the iPod while cycling at 25 mph caused its back to come loose, but it continued to play.

Drop 2: The 30-mph drop cost the iPod its back plate, scroll wheel, selection button—and its life. When we tried to turn on the iPod, we saw only the heartbreaking sight of the sad iPod icon. All attempts to revive the player were fruitless.—CHRISTOPHER BREEN





PRO FILE

MAC DADDY

Q&A with JEF RASKIN

*Jef Raskin has always been passionate about ease of use. In the early days of Apple, he argued so forcefully that computers should be easy for ordinary people to use, the company gave him a project just to quiet him down. Dubbed "Macintosh" by Raskin, the project ultimately led to the computer we know and love today. Even after leaving Apple in 1982, Raskin continued to push for a friendlier user interface. His latest book, *The Humane Interface*, looks at ways to develop designs that more closely conform to the way humans work and that don't force people to follow what computers do.*—DAVID READ

Q: Do you feel that your work on the Macintosh and *The Humane Interface* is a goal you've had your entire career?

A: Yes. I've been pursuing this from the sixties. I was an art professor, I've been a musician and a conductor, and I've done Ph.D. studies in music. I'm also lucky to have undergraduate degrees in physics and math. So as an undergraduate student, I saw how people from the humanities and the fine arts struggled with how to use computers. I suddenly realized that it wasn't because they were dumb. A lot of the engineers sort of looked down on them, but I had the fortune of being one of them as well. I'm a very thorough engineer. I've designed and built computers from the ground up.

That's how I was able to recognize that [Steve] Wozniak's design was so great. On the other hand, I didn't look down on the people in the humanities and arts. I felt that the problem was not them or their intelligence, it was the very bad way that the computer was interfaced with the human beings.

Q: How did your colleagues at Apple respond to your ideas?

A: [My ideas were] outside of the normal mind-set of people in the computer industry. Except at Xerox PARC, the idea of the important thing being how you use it was not part of the ethos. It was like being a visitor from an alien planet.

Q: Any thoughts on the Mac OS X interface?

A: Cosmetic changes. A few things have been cleaned up, a few things have been messed up, but it certainly doesn't use any of the research that I've been doing. What's worse is that it shows an ignorance of it.

Q: How do you get people to embrace the goals of *The Humane Interface*?

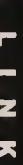
Do you feel it will happen?
A: It'll happen. I usually get my way eventually. As soon as some company embraces it well and comes out with a better product, then the other companies will say, "Ooh look, they're making money."

Q: How do you get people to embrace the goals of *The Humane Interface*?

Little by little, projects that have some of my ideas get out, and some of them

More Info: www.macworld.com/2002/03/macbeat/raskin.html

Jef Raskin shares more of his interface theories and talks about OS X.



AT A GLANCE

JEF RASKIN

AGE: "I was born the year the first electronic digital computer was."

RESIDENCE: Pacifica, CA

MACS: "A swarm of Macs, a G4 tower, a PowerBook G3, an iMac, an iBook or two, a Performa, and a handful of even older machines, including the millionth Macintosh."

SOFTWARE: Adobe Photoshop, AppleWorks 6, AOL, Ashlar-Vellum Graphite, Gvox Encore

are going to be successful in the marketplace, and

I keep up with the lectures and keep writing my books.

COOL STUFF

Going Global

It's a big world out there. But that doesn't mean you can't use your Mac to keep tabs on it. Whether you're a traveler who wants to check weather conditions in Gstaad, or just someone with an insatiable curiosity about the current temperature in Massawa, you need a way to keep track of the whole world at once. The \$20 shareware application Earth Browser from Lunar Software (www.lunarsoft.com) lets users scope out the time, weather, and climate conditions in real time for the entire planet. You can rotate the globe in four directions for a complete view. You can not only see what time it is in Copenhagen, but also tell whether or not it's daylight there via Earth Browser's Night Shadows indicator. Other windows provide even more details about a given city, including the current weather and, in some cases, Web-cam views. Geology buffs will be happy to see options for viewing all the latest earthquakes and volcanic activity worldwide. A similar shareware app, the \$30 Time Palette (www.timepalette.com), by Trygve H. Inda, gives you a flattened map view of the globe, allowing you to see the entire planet at once. Both Time Palette and Earth Browser run in OS X and the classic Mac OS, making it easier than ever to put the whole world in your hands.—MATTHEW HONAN



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Mon., 5/27	Vancouver, B.C.	—	5pm	6pm, Bon Voyage Cocktail Party
Tues., 5/28	Cruising the Inside Passage	—	—	8:30 – noon & 1:30 – 5pm; 6pm – 7pm
Wed., 5/29	Juneau	2pm	11pm	8:30 – noon
Thurs., 5/30	Skagway	7am	8pm	—
Fri., 5/31	Scenic Glacier Bay Cruising	—	—	1:30 – 5pm; 6pm – 7pm
Sat., 6/1	Ketchikan	10am	6pm	6pm – 8pm
Sun., 6/2	Cruising the Inside Passage	—	—	8:30 – noon & 1:30 – 5pm; 6pm – 7pm
Mon., 6/3	Vancouver, B.C.	8am	—	—

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Adobe in Motion

Adobe expanded its stable of OS X-native products with new versions of LiveMotion and GoLive. But the latest releases of these Web-publishing tools offer more than OS X compatibility.

With LiveMotion 2.0, Adobe hopes to prove that it can meet the needs of professional Flash designers. LiveMotion 2.0 is compatible with ActionScript—the scripting language used by Flash 5—and it supports JavaScript. Using JavaScript, LiveMotion designers can add interactivity to their animations and customize the application to fit their needs.

Adobe also set out to improve LiveMotion's compatibility with other Adobe apps. Photoshop users can retain nested layers when they import native Photoshop documents. Keyboard shortcuts adopted from After Effects and improved control over the grouping of objects let users more easily maneuver through LiveMotion timelines. In addition to locking objects and controlling their visibility on screen, users can *shy* objects, reducing clutter by temporarily removing from the timeline palette the ones they don't plan on editing.

GoLive 6.0 has floating tool palettes, giving users more control over screen real estate. It also offers split-screen viewing, for those who like to tweak code and check the changes in a browser.

With GoLive 6.0, users can diagram their sites before they start designing and programming. And avid code-slingers should enjoy GoLive's ability to import DTDs and check the markup for violations.

Both apps will be available by the end of March. LiveMotion 2.0 will cost \$399; current users will be able to upgrade for \$99. GoLive 6.0 will cost \$399; the upgrade, \$99.—KELLY LUNSFORD AND LISA SCHMEISER

CLICK HERE

QuickTime's Time Has Come

At a time when most supposedly groundbreaking technologies have the shelf life of a pop band, QuickTime, which debuted a decade ago, stands out like U2 in a roomful of Milli Vanillis. Now some of the programmers and developers who've worked on QuickTime over the years have formed the group Friends of Time to see that the multimedia technology gets proper recognition. The all-volunteer organization wants to eventually create a museum exhibit that chronicles QuickTime's evolution and its role in the growth of digital media. It's already found an online home: www.FriendsOfTime.org, which houses more than 600—and counting—artifacts and features everything from screen shots of early CD-ROMs that incorporated QuickTime, to photos of early QuickTime developer kits.—PHILIP MICHAELS



SOFTWARE

DEVELOPMENT

SOFTWARE

- **RealBasic 4.0**, from Real Software (512/263-1233, www.realsoftware.com): The software-development tool, which runs on Mac OS 8, 9, and X, adds ListBox and EditField features, among other enhancements (Standard Edition, \$150; Professional Edition, \$350; upgrade, \$30 to \$90).

INTERNET SOFTWARE

- **AOL for Mac OS X**, from America Online (800/827-6364, www.aol.com): The OS X-native version of the online service features a streamlined design and new e-mail tools (software, free; membership prices vary).

MULTIMEDIA SOFTWARE

- **Media 100 Version 8**, from Media 100 (800/773-1770, www.media100.com): The media-production system, which will ship early this summer, has been updated to run on OS X. It features a new Aquafied user interface and new effects-creation and sound-design capabilities (Media 100 i/xr, \$14,995; Media 100 i/xs, \$9,995; Media 100 i/lx, \$4,995; Media 100 i/le, \$2,995).

- **Toast 5.1 Titanium**, from Roxio (866/280-7694, www.roxio.com): The latest version of the CD-burning software adds OS X support (\$90; upgrade, free).

PRODUCTIVITY

SOFTWARE

- **FastTrack Schedule 8.0**, from AEC Software (800/346-9413, www.aecsoft.com):

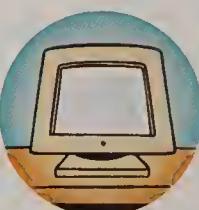
.com): The project-management software now runs natively in OS X and features a new interface. The program, which also runs in OS 9, will ship before the end of March (\$299; upgrade, \$99 before February 15, \$129 after).

● **FileMaker Mobile 2.0 Companion for Palm OS**, from FileMaker (800/325-2747, www.filemaker.com): The mobile version of the database application for Palm OS handhelds, set to ship by the end of March, now runs in OS X (\$49; upgrade pricing not available at press time).

● **OmniPage Pro X**, from ScanSoft (800/654-1187, www.scansoft.com): The OS X-native version of the OCR software features improved accuracy and the ability to convert PDF documents with text, tables, and graphics into editable online documents (\$150).

UTILITY SOFTWARE

● **Conflict Catcher 9**, from Casady & Greene (800/359-4920, www.casadyg.com): The start-up manager features faster conflict testing, logging of intermittent problems, and enhanced USB and FireWire reporting. The update supports OS X's Classic mode and has an OS X set preference that saves time when booting into Classic (\$80; upgrade, \$30).



HARDWARE

NETWORKING

HARDWARE

- Wireless networking hardware from Proxim



What's HOT

SPECIAL MACWORLD EXPO EDITION

1. Redesigned iMac lands Steve Jobs on the cover of *Time*. Oddly enough, Rudy Giuliani wound up on the cover of this month's PC World.
2. Adobe demonstrates Photoshop running on OS X. Which is good, because if Adobe doesn't show up for a Macworld Expo demo, it usually means six more weeks of winter.
3. Apple's iPhoto lets you store, edit, print, and order copies of your digital images. We're looking forward to ordering our first iPhoto-produced hardcover book of photographs: *Shots of My Thumb* Covering Up the Lens.

(800/229-1630, www.proxim.com): The **Skyline 802.11b USB Adapter** (\$150) allows older Macs not equipped with AirPort card slots to work wirelessly via 802.11b. The adapter connects to the Mac's USB interface, providing as much as 11 Mbps of transfer speed over a wireless network. **Symphony HomeRF** products (base station, \$199; USB adapter, \$99; PC Card, \$99) provide interface-resistant, 10-Mbps wireless networking. The HomeRF is designed to support voice and streaming media, in addition to regular data transfer.

STORAGE DEVICES

- Two hard drives and a CD-RW drive from LaCie (503/844-4500, www.lacie.com): The **LaCie 120GB FireWire hard drive** (\$399) uses a 7,200-rpm mechanism and stores more than 30 hours of MPEG-2 video. The **LaCie 160GB FireWire hard drive** (\$449) uses a 5,400-rpm mechanism and can store more than 300 hours of CD-quality audio. Both drives feature a 2MB buffer. **LaCie's 32x10x40x CD-RW drive** (\$269) can burn a 700MB CD in 2.5

minutes. It features dual support for FireWire and USB 2.0.

- Three devices from QPS (800/559-4777, www.qps-inc.com): The **FireWire Que DVDBurner+RW** (\$649) can write 4.38GB of data and rewrite discs as many as 1,000 times. The **2-bay Que DVDR Dupe Tower** (\$1,499) features two combo DVD Burner/DVD-RW/CD-RW drives and an internal hard drive. The **5-bay Que Dupe Tower** (\$4,999) has a DVD-ROM drive, four DVD Burner/DVD-R/DVD-RAM drives, and an internal hard drive.

SYSTEM HARDWARE

- Graphics cards from ATI Technologies (905/882-2600, www.ati.com): The **Radeon 7000 Mac Edition** (\$129) is a PCI-based graphics card with 32MB of DDR memory. It supports OS 9 and OS X and features DVI-I, VGA, and S-Video out connectors. The **Radeon 8500 Mac Edition** (\$299) is an AGP-based card with a core clock speed of 250MHz and a memory clock speed of 275MHz. It includes 64MB of DDR memory.

VOICE RECORDERS

- Macintosh compatibility for digital voice recorders from Olympus America (800/347-4027, www.olympusamerica.com): The **DSS Players for the Mac** (free) enables users to manage all digital dictation and automates manual functions, such as autodetection and USB autodownload of dictation from the recorder. The Mac software works with Olympus's **DS-2000** (\$249), **DS-3000** (\$399), and **DS-320** (\$199) voice recorders.



ANNOUNCED

- An **Office v. X** trial-software offer from Microsoft (800/426-9400, www.microsoft.com/mac): The software—available as a free download or for \$5 through the mail—includes OS X-native versions of all four Office apps; the programs run for 30 days after installation.—Compiled by PHILIP MICHAELS

MAC OS X UPDATES

powered by  versiontracker.com

Boris Red 2.1

Video plug-in for 3-D compositing

Classic? 1.0

Dock icon indicates whether Classic is running

CopyPaste 1.0.2

Multiple-clipboard display and editor utility

Dantz Retrospect 5.0b

Beta of native backup software

EZediaMX 3.0

Multimedia integration software

Equilibrium DeBabelizer 5.0

Media production automation application

FileWave 4.5.1

Automated software distribution and asset management

M-Layout 1.0.1

Page-layout application

MediaEdit Pro 1.0

Video- and image-editing software

Mesa 3.0.7

Spreadsheet app adds support for dynamic display of multiple worksheets

Moho 3.0

2-D vector-based animation application

MovieWorks Deluxe 5.2

Multimedia production application

Nokia Contact Sender 1.3b5

Transfers contact info to Nokia digital phones

OmniWeb 4.1b1

Web-browser update

Oni X 1.33

Action-game update fixes texture rendering bugs on Nvidia cards

Palm Desktop X 4.0b77

Beta of Palm synchronization software

Personal Organizer 4.0.2

Calendar and contact-management system

PodMaster 1000 9.85

Tool for viewing songs installed on iPod

Stalker CommuniGate Pro 3.5.2

Mail-server application

Stone Studio 01-2002

Updates seven Web and print design apps

Watson 1.1

Desktop Web-services app

wData Builder X 2.0

HTML editor for FileMaker, Lasso developers

Windows Media Player X 7.1.3

Update to multimedia player

Word Translator 4.5

Foreign-language translation and dictionary

Zingg 1.0

Finder contextual menu

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Mac Beat

product reviews

Hands-on Evaluation and Authoritative Buying Advice

Illustrator 10

Adobe's Upgrade Is Very Good—Despite Some Letdowns

BY BEN LONG



ADOBE ILLUSTRATOR 10 MARKS A significant waypoint on the migratory path to Mac OS X; it's the first of Adobe's major graphics packages to be Carbonized. But even if you haven't yet moved to OS X, Illustrator 10 is an important upgrade with an impressive array of new features: powerful drawing tools; slicing and compression tools; and automatic, data-driven artwork creation. However, some long-desired features—most notably multipage support—are still missing.

Say It with Symbols

Illustrator has needed symbol tools for a long time. In Illustrator 10,

symbols are object templates that let you place instances of objects in a document without significantly increasing its file size. Whether you're new to the concept of symbols or you've used similar tools in a CAD program or in Macromedia FreeHand, learning to use Illustrator 10's symbol tools is quick and painless.

You can turn any object or group of objects into a symbol by clicking on the New Symbol button at the bottom of Illustrator's new Symbols palette. You can then drag instances of that symbol from the Symbol palette into your document to create multiple copies. Though you can't

ILLUSTRATOR 10

Rating:

Pros: Excellent symbol and distortion tools; great new Web features; powerful new data-driven graphics creation.

Cons: No multipage support; poor drag-and-drop functionality; runs slightly slower in OS X than in OS 9.

Company's estimated price: \$399

OS compatibility: Mac OS 9, Mac OS X

Company: Adobe Systems, 800/833-6687, www.adobe.com

edit symbol instances, you can change their attributes—like any other object, they can be scaled and rotated. You can edit the original symbol at any time, and Illustrator will then update all the instances in your document. This makes symbols and instances much more powerful and flexible than simple copies of an object.

Symbolism tools are new features that let you create and modify sets of symbols. The easiest way to create a set of symbols is with the new Symbol Sprayer tool, a spray-can icon that squirts symbol instances. You can use the Symbol Sprayer to quickly cover an area with instances. You can change each instance's rotation and scale, as well as vary the spacing between instances. The Symbol Sprayer is pressure sensitive, so you can use a graphics tablet to control rotation and scaling.

Once you've sprayed out a bunch of symbol instances, you can use other Symbolism tools to *paint* variations into your collection of instances. For example, the new Symbol Sizer tool works like an airbrush—that is, its effect changes from the center of the brush to the edges. As you brush with the Symbol Sizer, it scales underlying symbol instances by varying degrees. The symbol-rotation and transparency tools work the same way, as does the Symbol Stainer tool, which allows you to tint symbols with the current foreground color.

Finally, if you redefine a symbol, Illustrator preserves modifications you may have made to an instance's scale, rotation, tint, and so forth.

The Right Tool for the Job

Adobe has expanded Illustrator's toolbox in several other ways. It has been rearranged to make room for the new tools. New to Illustrator is a set of drawing tools with which you can easily create basic shapes. First, the Line Segment tool (something that every drawing and painting program since MacPaint has offered) and the Arc tool let you make those simple shapes by just clicking on a start and an end point—you no longer have to use the Pen tool.

Two new grid tools let you drag out basic rectangular grids or circular polar grids. A thorough set of parameters lets you control the look of the grids, and you can use Illustrator's Make Guides command to quickly turn grids into guides.

Illustrator 10 also includes excellent distortion tools, which can be applied to any type of object, including text objects (not just outlines of text). The 15 Distort effects provide envelope distortions just like the text distortions found in Adobe Photoshop 6: arches, bulges, fish-eye effects, and many others. And because these are effects rather than filters, you can go back and change them at any time by adjusting your Effects settings.

The new Envelope command provides further distortion power. In addition to creating editable mesh warps,

you can define your own envelopes just by drawing a shape. This is especially useful for creating custom perspectives and distortions.

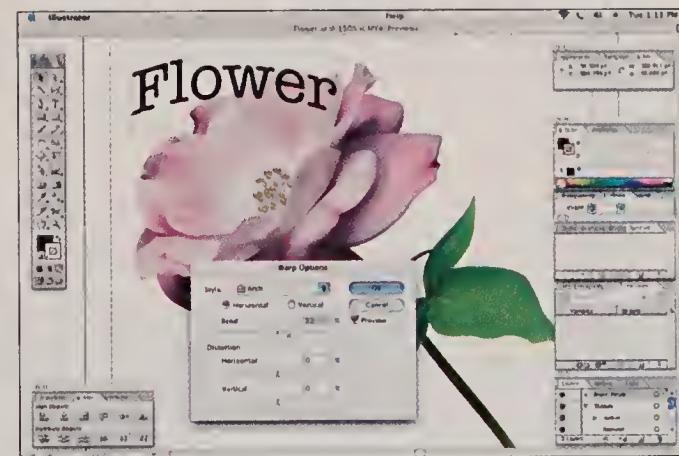
The most-robust Distortion tools in Illustrator 10, though, are its new Liquid tools, with which you can brush distortion into objects. Offering bulges, twirls, puckers, wrinkles, and more, the Liquid tools provide a completely interactive way to create complex and natural-looking distortions of any object.

New Web Tools

Illustrator 10 packs a lot of new features for Web designers. The Object-Based Slice feature lets you turn any Illustrator object, or group of objects, into a slice. As in Photoshop, slices can have names, URLs, targets, and ALT text. What's more, you can choose to render text in an object either as an image or as HTML text. When you finish designing your page, Illustrator will output an HTML file and all the necessary graphics.

If you decide later to rearrange a slice, Illustrator will automatically update the rest of your slices and tables on-the-fly. It provides full controls for specifying compression formats and ratios.

Illustrator 10 incorporates other handy Web features, such as the ability to create Flash SWF files. Also impressive are version 10's new data-driven graphics features. The program is now thoroughly scriptable using AppleScript, JavaScript, or Microsoft Visual BASIC. And all objects can now have associated variables, which you control and manipulate through scripting. The new Variables palette lets you create and edit those variables. Consequently, you can associate Illustrator documents with ODBC databases to create images based on real-time data. Helpful when you want to make maps, real-time ads, or any type of document with variable content, these new features are unique and well implemented.



Twisting Your Words Among Adobe Illustrator 10's many new drawing tools are powerful object-warping effects.

All of Illustrator 10's Web tools are more than adequate. A joy to use, they work smoothly and easily, and we didn't run into any problems.

What's Missing

Despite the many improvements in symbols and in drawing and Web tools, any kind of multipage support is still conspicuously absent in Illustrator 10. Macromedia FreeHand has included it for years, and Illustrator is lagging behind in this respect. It seems that Adobe is clinging to the mistaken notion that multipage support in Illustrator would cannibalize its InDesign and PageMaker sales.

Another problem is that drag-and-drop support is still missing. You can't drag and drop a layer from one document to another, or an image from your desktop to an Illustrator document. This is very inconvenient, and we expected a remedy in this new version.

Illustrator 10's performance is good. It's a bit slower, but still perfectly acceptable, in OS X—exhibiting only some of the slowdowns we've noticed in other graphics applications running under the new OS.

Macworld's Buying Advice

Illustrator 10 is packed with stunning new features for both print and Web development. Although the absence of multipage support is frustrating, version 10's new tools and OS X support make this a very good upgrade, which we recommend without hesitation. **m**

■ With ordinary printers, you see the marble statue called David.

■ With our printers, you see a painted model named Jason.





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Multifunction Printers

One Device Does It All for Mac-Based Home Offices

BY JEFF PITTELKAU

Working from a home or a small office, you can get tired of running out to the local copy center every time you need to make a copy or send a fax. It may be time to consider a multifunction printer, or MFP—one device that can scan, copy, fax, and print. You'll pay about as much for an MFP as the total for a separate scanner, printer, and fax machine, but it'll save on desk space and hassles, and offer conveniences that you simply won't get with separate devices.

For this review, we compared six MFPs: the winner from our last roundup (see *Reviews*, March 2001), Hewlett-Packard's OfficeJet G85 (whose price has since come down by \$300); HP's PSC 750 and PSC 950; Brother's MFC-5100c; and Lexmark's X73 and X83. At a minimum, each includes a flatbed color scanner rated at 600 by 2,400 dpi and a photo-quality color ink-jet printer rated at 2,400

by 1,200 dpi. The Macworld Lab performed a full battery of tests to assess each MFP's speed and quality.

Setting Up the MFPs

All MFPs connect to your Mac via USB, so you have only to plug them into your computer and a power outlet, and install the software drivers on your Mac. For the models that include fax capability, you also need to connect a phone line and, if desired, a phone for making and receiving voice calls.

Each MFP we tested comes with software for scanning, printing, and,

if supported, faxing. Both Hewlett-Packard and Lexmark provided drivers for the classic Mac OS and OS X, and we verified compatibility with each. However, Brother's Mac OS X software for the MFC-5100c supports only printing as of press time—scanning to or faxing from a Mac running OS X is not yet possible.

Printing

Loading ink and paper is as simple as with any other color ink-jet printer. Black and color cartridges are separate, and a single cartridge holds cyan, magenta, and yellow ink in all the MFPs we tested except the Brother MFC-5100c, which uses a separate cartridge for each of the three colors. This is more economical—if you run out of one color, you don't have to replace all the inks.

To assess print quality and speed, we printed a single-page photographic image from Adobe Photoshop and a 20-page text document from Microsoft Word. The Lexmark X73's text quality was excellent, closely followed by that of the Lexmark X83 and all three Hewlett-Packard models. The HP machines printed the photo best. The Brother model's photo output was acceptable, but its jaggy text was not.

As for speed, the Brother MFC-5100c cranked out the photo faster than any other, but it was slow on text. The other models were evenly matched for text printing; however, photo printing on the two Lexmarks was a little poky.

Copying

One of the greatest conveniences of an MFP is the ability to make inexpensive photocopies quickly. To produce



Multifunction Printers Compared

COMPANY	PRODUCT	MOUSE RATING	COMPANY'S ESTIMATED PRICE	CONTACT	PROS	CONS
Brother	MFC-5100c	1 1/2	\$300	908/704-1700, www.brother.com/usa	Sheetfed fax capability.	Poor text printing; all buttons not Mac compatible.
Hewlett-Packard	OfficeJet G85	3 1/2	\$500	800/752-0900, www.hp.com	Sheetfed fax capability; optional Ethernet connection.	Large size compared with other models.
	PSC 750	3 1/2	\$300	800/752-0900, www.hp.com	Excellent photo printing and scanning.	No fax modem.
	PSC 950	3 1/2	\$400	800/752-0900, www.hp.com	Built-in fax modem and card reader.	No sheet feeder for faxing.
Lexmark	X73	1 1/2	\$150	888/539-6275, www.lexmark.com	Excellent photo and text printing.	Cannot operate without a Mac; green color shift in scans; poor copying quality.
	X83	3 1/2	\$200	888/539-6275, www.lexmark.com	Stand-alone operation.	Red color shift in scans.

copies using a stand-alone scanner and printer, you would first need to scan your document and save it to your Mac, then print that file from an application. All of this ties up your Mac—and your time. Not so with an MFP: you put the original on the scanner, and a single button starts the copying process. Except for the Lexmark X73, the MFPs we tested operate independently of your Mac, so you can use them even when your Mac is off.

When performing black-and-white copying, none of the models' output came close to the quality of a standard office photocopier. In general, the quality is similar to that of a draft-quality print from an ink-jet printer. All the MFPs botched copying the photographic portion of our test document in some way, with either banding or visible dithering. We can excuse this on inexpensive ink-jet copiers because most MFP owners won't need to make high-quality photocopies of images. On the text portions of our test, Lexmark's X83 alone came close to the original, but the text output from all these MFPs was fairly clear.

Scanning

To evaluate scanning performance, we set all the MFPs to the same resolution—1,200 by 1,200 dpi—and compared their scans on screen. The three models from Hewlett-Packard made the sharpest scans, with the least color shift. In particular, the

OfficeJet G85 produced the sharpest image. The scan from the Brother MFC-5100c was acceptable, but less detailed than any of the HP models'. Both Lexmark machines produced fuzzy scans with pronounced color shifts—the X83 was too red, the X73 too green.

Faxing

Three models—HP's OfficeJet G85 and PSC 950, and Brother's MFC-5100c—have fax capability, which can operate independently of your Mac. The OfficeJet G85 and MFC-5100c include a multisheet feeder for faxing, but the downside is that this feature adds bulk—both are significantly larger than models without sheet feeders. HP's PSC 950, on the other hand, is smart enough to guide you with prompts on its LCD screen when you need to fax more than a single page.

Nice Extras

The basic operation of all the units is similar, with one-button access to scanning, copying, and faxing. We most liked the buttons on the Hewlett-Packard PSC 950 because they light up to show which modes are selected. The buttons on the other MFPs are simple enough, but the Brother's Scan To button just doesn't work with a Mac. Of the included software, HP's Workspace is the most complete: a simplified, customizable application for scanning, copying, printing, and faxing.

Hewlett-Packard's OfficeJet G85 is the only model that can also connect via Ethernet, using an optional JetDirect adapter (\$144 for a 10-BaseT adapter or \$255 for a 10/100-BaseT adapter).

A feature unique to the HP PSC 950 is a set of slots on the side of the machine—built-in readers for Smart-Media, CompactFlash, and Secure Digital cards. These readers can be used to send card data, including pictures and other files, to your Mac. However, they're also good for direct photo printing with one of the neatest gimmicks we've seen in an MFP—contact sheets printed on the PSC 950 include bubbles and registration marks that the scanner can recognize. You just fill in the bubbles to specify which photos you want printed, put the contact sheet on the scanner, press two buttons, and the PSC 950 does the rest.

Macworld's Buying Advice

With a few noted exceptions, all of these multifunction printers performed well. The Hewlett-Packard models stood out for their quality, although their higher prices reflect this. If you need a fax-and-copy workhorse, especially one to network for multiple users, the HP OfficeJet G85 is a fine choice. Small-office and home users—in particular those who want to print photos directly from digital-camera memory cards—will find a great match in the HP PSC 950. **m**

Toon Boom Studio 1.0

Dynamic, Fun Application Adds Fuel to the Animation Fire

BY GALEN FOTT

While Macromedia Flash's vector-based animation lets users produce files that are small enough to be easily distributed on the Web, Flash's technical interface is alien territory to traditionally trained animators. Toon Boom Studio is an innovative new program that can help animators find new audiences on the Web.

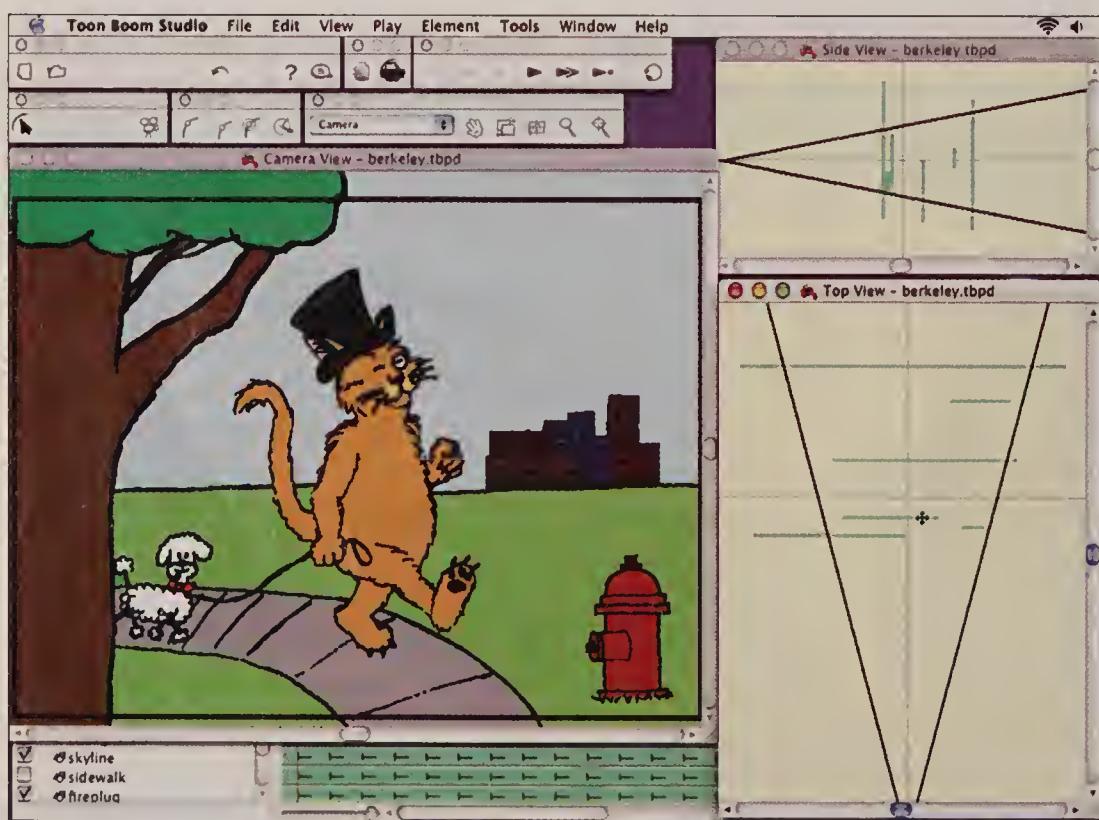
Toon Boom Studio sets out to be an entire animation *studio*, and the extent to which it succeeds is remarkable. The Drawing mode provides polished vector drawing tools, a flexible painting system, an automatically generated lip-sync reference, and an exposure sheet for working out the timing of elements—and that's just part of the program.

This inventive program runs only in Mac OS X, and its dynamic combination of old- and new-school animation provides challenges: many traditional animators will have to

become accustomed to working in 3-D space, and experienced computer animators will discover that the quality of Toon Boom Studio's output depends greatly on the drawing ability of the user.

To the Drawing Board

Toon Boom Studio's Drawing mode has digital versions of all the amenities found in a traditional animator's workspace, down to the rotating light table and 12- or 16-field grids. There are simple shape-drawing tools, but if you're an experienced artist, you'll



Scene Ya Real Soon The Camera, Side, and Top views, in Toon Boom Studio's Sceneplanning mode, help you move your characters through a 3-D world.

TOON BOOM STUDIO 1.0

Rating:

Pros: Strong drawing and import features; lip-sync analysis; dynamic 3-D stage; excellent support.

Cons: Tedious loop creation; no audio scrubbing; no type tool; minor inaccuracies in printed manual.

Company's estimated price: \$374; download, \$349

OS compatibility: Mac OS X

Company: Toon Boom Technologies, 514/278-8666, www.toonboomstudio.com

want to head straight for the responsive pencil and brush tools. Using a digitizing tablet with Toon Boom Studio's brush tool gives you pressure-sensitive control over line thickness. (A Wacom driver is included on the CD.) As you animate a sequence, the customizable onion-skinning system lets you view prior and subsequent drawings—an invaluable reference tool.

And if you'd rather work with old-fashioned pencil and paper, Toon Boom Studio has you covered: the Import And Vectorize command takes a scanned drawing saved in BMP format and faithfully converts it to vector art. If your idea of drawing involves a Bézier pen tool, you can import Adobe Illustrator 8 files. The program also lets you import bitmap graphics, which are useful for creating backgrounds.

Each element is stored in its own column in the Exposure Sheet, where you can easily adjust timing, frame by frame in individual cells. Creating loops, such as walking cycles, is a straightforward but somewhat tedious process—you must repeatedly paste a sequence of cells until you've reached your desired length.

Once you've got your 'toons in order, it's time to add the boom: the program lets you import MP3, AIFF, WAV, and PCM audio files. One of the program's most intriguing features is the Show Lip-Sync command, which analyzes sound files and generates reference drawings showing the proper mouth shapes for spoken dialogue. The results are generally good, particularly if you're working at a low frame rate for the Web.

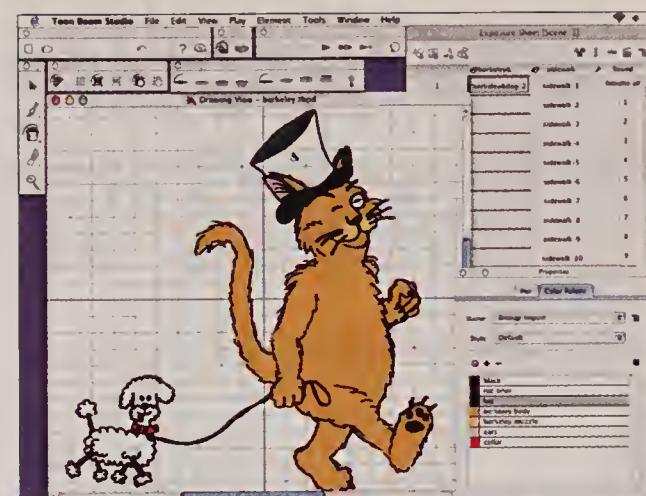
Making a Scene

The program's Sceneplanning mode lets you work multiplane magic as you position and animate your elements, giving you three views—Camera, Top, and Side—of the virtual 3-D stage. Drag an element downward in the Top view, and you'll see it move simultaneously closer in the Camera view. The well-designed Timeline lets you animate elements by attaching them to *pegs*. You can then set keyframes for these pegs to animate their position, scale, and rotation. Most impressive here is the level

of sophistication Toon Boom Studio provides when it comes to adjusting motion velocity. Clear, easy-to-read graphs let you ease into and out of movements naturally.

The Scene Manager palette is the key to organizing your work in Toon Boom Studio. Every scene has its own Exposure Sheet and Timeline, which simplifies the organization of large numbers of elements. It's also easy to reorder scenes in the palette when you want to experiment with different sequences. And should your animation masterpiece give rise to sequels, you can save some elements, such as drawings, pegs, and animated cameras, as templates that you can import into subsequent projects.

This program covers a lot of ground; fortunately, it ships with exceedingly helpful, friendly documentation. From its tech support and Web site to the program's interface, Toon Boom Technologies does all it



I Tawt I'd Dwaw a Pwetty Hat With a single click, Toon Boom Studio's Paint tool adds color to an area.

can to make sure you master its product and (more importantly) enjoy using it.

Macworld's Buying Advice

Toon Boom Studio is packed with innovative, detailed, well-thought-out features that make it easy and fun to use. Any program this far-reaching is bound to have room to grow, but if you want to create hand-drawn play-through animations for the Web, Toon Boom Studio is the ticket. **m**

Asiva Photo 1.0

New Image Editor Is Innovative but Slow

ASIVA PHOTO 1.02, A NEW IMAGE editor, offers users a different way of working, but it's not without flaws. Like MGI's Live Picture and Macromedia xRes 3, Asiva Photo displays a downsampled proxy image on screen, records your edits in an edit list, and renders them to the full-resolution data on request.



Pump Up the Color For better color saturation, you can use the Gain Map graph to increase only greens, cyans, and blues.

The program's clean, powerful editing interface is based on working with hue, saturation, and luminance instead of conventional controls over RGB or CMYK channels. Each edit, or *operation*, is queued in an operations list. You can save both individual operations and sequences of operations for reuse.

You use operations to shift; to remap; and to adjust gain for hue, saturation, and luminance, or for RGB or CMYK. The operations maps let you control how operations are applied to an image.

Asiva Photo's major flaw is its rendering scheme—today's hardware is fast enough for editing actual pixels in large files. On a dual-processor 800MHz G4 running Mac OS X, we had to wait several seconds for the

Rating:

Pros: Innovative user interface.

Cons: Very slow performance.

Company's estimated price: \$378

OS compatibility: Mac OS 9, Mac OS X

Company: Asiva, 512/732-2886,

www.asiva.com

operation to render before we saw its effect. On a 450MHz G4, performance was agonizingly slow.

Macworld's Buying Advice

If you are new to image editing—or are looking for an entirely different way of working—and your files are modest in size, Asiva Photo may be worth a look. For most users, though, it's likely to be an exercise in frustration.—BRUCE FRASER

Corel Graphics Suite 10

Bundle for Pros and Enthusiasts Provides Great Value

BY SIMON DANAHER

Corel has always provided innovative graphics software, and though the company has enjoyed success on the Windows platform, it hasn't successfully penetrated the Mac graphics market, due to the well-established graphics programs—such as Adobe Illustrator and Macromedia FreeHand—already there. Corel's latest attempt to capture Mac users' attention is Corel Graphics Suite 10, a valuable bundle of applications that includes Photo-Paint, for image editing; CorelDraw, a vector-based drawing program; and the new RAVE, for creating vector-based animations.

Photo-Paint

Photo-Paint has a few very nice tricks up its sleeve—it outdoes even Adobe Photoshop as far as effects layers go. Photo-Paint also lets you apply filters, such as Sharpen and Noise, nondestructively. And it provides the usual Levels, Curves, and Hue/Saturation color-adjustment tools; they're good, but they're not quite in the same class as those tools in Photoshop.

Photo-Paint is impressively interactive. For example, as you scroll down a list of fonts, a large sample of each one pops out at the side. And the excellent pop-up menu for layer-blending modes applies each mode to

the layer type as you move through the list with your mouse.

Other new features include Publish To PDF, a preflight engine for collating final output, and in-RIP trapping with a full range of features for PostScript 3 devices.

But Photo-Paint has problems, too. Moving an object layer results in a ghosted box, whereas Photoshop shows the object in motion.

CorelDraw

CorelDraw, the vector-drawing part of the suite, competes with Illustrator and FreeHand, which are also available for OS X. Like Photo-Paint's, CorelDraw's interface is well designed, and the program has many professional-level features, such as embedded ICC profiles.

Filter effects can be applied to bitmapped images, and you can convert any vector element to a bitmap inside the current file. Prepress support is excellent in CorelDraw; a handy Prepare Files For Service Bureau wizard will help less-experienced users. The streamlined color-management system is a bonus, and you can publish your job either to HTML with embedded Flash for Web output or as a PDF file.

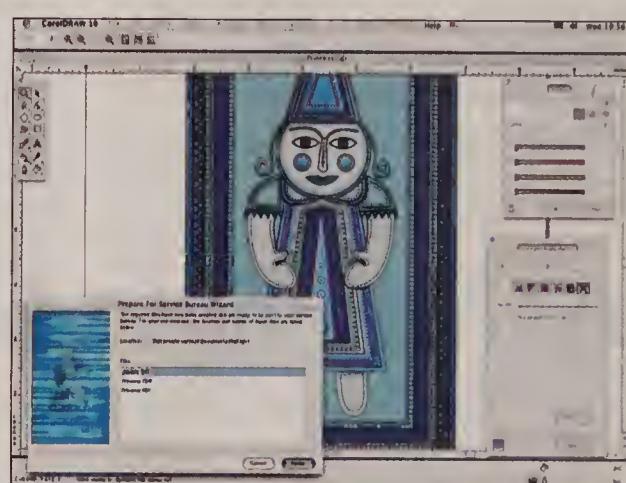
CorelDraw doesn't have the rich palette of calligraphic strokes found

in Illustrator, but as in FreeHand, text handling is very good. The entire program is easy to learn and use.

RAVE

RAVE, the third part of the Graphics Suite triumvirate, is a vector-based animation program that you can use to create all manner of animated graphics for Web pages and multimedia applications.

RAVE's interface is almost identical to CorelDraw's, but it has a large



Drawing It Out Vector-based CorelDraw is a well-designed, easy-to-use system. Like the rest of Corel Graphics Suite 10, it has an Aqua-compliant interface.

timeline at the screen's bottom. You animate images by adding keyframes for elements, as is standard. RAVE supports transformations of the object as a whole or from individual points. You can animate fills, colors, and effects for interesting results.

Macworld's Buying Advice

Despite slow updating and OS X interface problems, such as fonts that are too small to read easily, Corel Graphics Suite 10 is overall a very good package. Compared with the competition, it's attractively priced, and it will appeal to cost-conscious professionals and enthusiasts alike. **m**

COREL GRAPHICS SUITE 10

Rating:

Pros: Good value; great feature set.

Cons: Some interface anomalies; sluggish at times.

Company's estimated price: \$569

OS compatibility: Mac OS 9, Mac OS X

Company: Corel, 800/772-6735, www.corel.com



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Tax-Preparation Software

TaxCut Outdoes TurboTax in a Few Key Usability Areas

BY JAMES BRADBURY

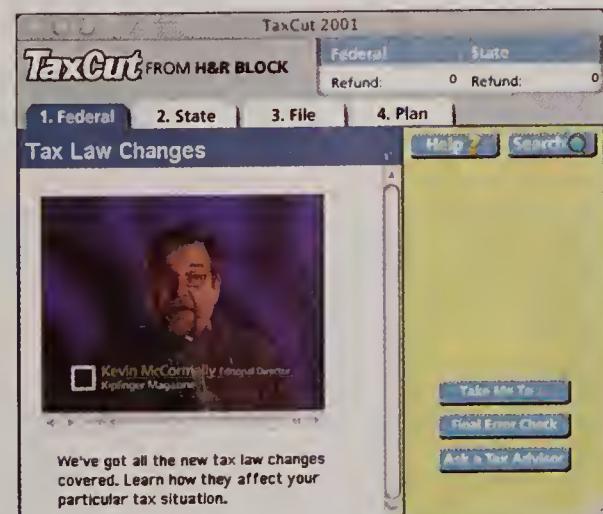
For six years now, Mac users have had only two choices in tax software: TurboTax, from Intuit, and TaxCut, from H&R Block. Although neither would win a beauty contest, each program has evolved to look more and more like its competitor. However, TaxCut retains some clear advantages over TurboTax.

The heart of both programs is the interview, which guides you through the tax-preparation process. TaxCut has the edge here—it asks fewer irrelevant questions. And when you click on a frequently asked question, TaxCut's answers are succinct without sounding like an IRS manual.

TaxCut also handles the personal touches better than TurboTax. For example, TaxCut responded impressively when we listed an occupation title (writer): it offered advice on a home-office deduction.

The Joys of Data Entry

Last year, TaxCut introduced a great new feature that let you mark a data entry as tentative, allowing you to finalize it later. TurboTax added the same feature this year.



Head Start TaxCut is good at getting to the point quickly, as evidenced by its video-based advice from *Kiplinger's Personal Finance* magazine's editors.

Both programs can now download 1099 information from financial institutions such as brokerages and banks, and W-2 information from payroll institutions. This feature aims to save you tedious data-entry work; though it wasn't ready for testing in either program at press time, TurboTax appears to have more participating institutions.

Both products let you import data from Quicken. However, unless you've been meticulous about categorizing tax-related transactions all year long, a Quicken import is of limited utility.

One important difference between the two is that TaxCut includes both an OS X and a classic-Mac OS version; TurboTax runs only on OS 9 and earlier. We used TaxCut in OS X with no problems, but TurboTax crashed the Classic environment at least once on our OS X machine. Neither program had any problems running under OS 9.2. TaxCut is also significantly less expensive than TurboTax, at half the latter program's price. (Each program also offers one state return and one electronic filing, after rebate.)

Heavy on Resources

Beyond the interviews, both programs are stuffed with extras. Apparently, you can't do your taxes in a software program without watching a talking head earnestly explain everything from

TAXCUT MACINTOSH DELUXE 2001

Rating:

Pros: Well-designed interview structure; interesting editorial sidebars.

Cons: Slightly cluttered interface.

Company's estimated price: \$25

OS compatibility: Mac OS 9, Mac OS X

Company: H&R Block Financial, 818/779-7223, www.taxcut.com

TURBOTAX DELUXE FOR MACINTOSH

Rating:

Pros: Downloads data from many financial and payroll institutions; imports easily from Quicken.

Cons: Inefficient interview feature; obtuse explanations of basic tax laws.

Company's estimated price: \$50

OS compatibility: Mac OS 9

Company: Intuit, 800/446-8848, www.turbotax.com

nanny taxes to deductible home-equity interest. In general, though, TaxCut's heads had more interesting things to say, and they were less likely to veer off into infomercials.

Naturally, both programs are crammed with tax-reference materials from the IRS and from third parties—information you won't need if the interviews are effective. Both also offer links to "live" tax advisors.

Macworld's Buying Advice

Either H&R Block's TaxCut or Intuit's TurboTax will get the job done, but TaxCut has a slight advantage when it comes to presenting information clearly, with a minimum of accounting jargon. Add the fact that it's Carbonized for OS X, and TaxCut gets our refund check. **m**

BrickHouse 1.1b6

Firewall-Configuration Utility Makes Setup Easy, for Some

BRICKHOUSE is a complete graphical user interface for ipfirewall; it lets administrators restrict file sharing, remote login, and other network access to Macs, by Internet port and by IP address. The utility can provide different levels of access for each

Rating: 1/2

Pros: Default settings provide excellent security; helpful configuration assistant; lots of built-in and custom filtering options for common network attacks.

Cons: Minimal documentation; log usefulness is limited.

Company's estimated price: \$25

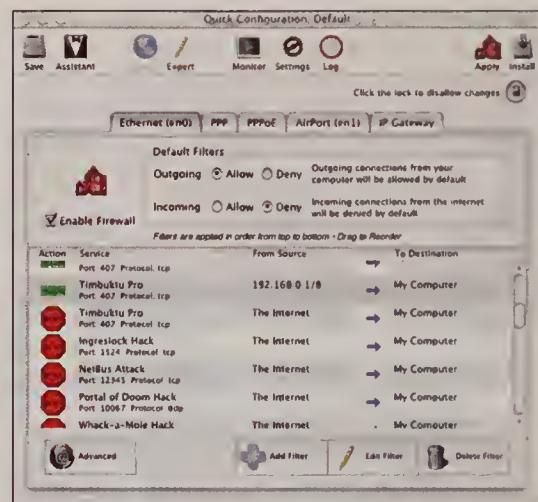
OS compatibility: Mac OS X

Company: Brian Hill, http://personalpages.tds.net/~brian_hill/brickhouse.html

type of Internet connection (Ethernet, AirPort, modem, or PPPoE).

The Quick Configuration assistant helps first-time users alter the default settings. But BrickHouse also offers options for advanced administrators, such as the ability to set ICMP and TCP flags, deny source-routed packets, and create and export a set of custom filters for use on other computers.

As feature-rich as BrickHouse is, though, it has a few shortcomings. Users who aren't comfortable working with the advanced settings to customize firewalls will find that the program's documentation provides little assistance. In addition, the log, which lists denied-access attempts, and the monitor, which tracks packets associated with each access, can't be effectively searched.



Thorough Protection BrickHouse can allow access from specific IP addresses or subnets.

Macworld's Buying Advice

BrickHouse is an inexpensive and easy-to-set-up utility for security-conscious firewall neophytes and experts, but folks in the middle may find it difficult to customize.—SHELLY BRISBIN

DiskWarrior has



1999 Macworld Editors' Choice Awards
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KnockOut 2

Procreate's Sophisticated Masking Plug-in

HAVE YOU EVER TRIED TO USE AN image-editing program to composite one part of an image with another? If so, you know how hard it can be to select complex shapes such as hair, or semitransparent shapes such as glass and smoke. KnockOut 2, from Procreate, makes it easy to create complex masks in any program that sup-



KnockOut the Mask With simple tools that can define the inside and outside of an object, KnockOut 2 lets you create complex masks.

ports Photoshop-compatible plug-ins; KnockOut's stand-alone days are over.

In KnockOut, you create a mask by using a lasso selection tool to trace an inside and an outside path around the edge of an object. Version 2 has excellent automatic path-generation tools. Once you've drawn the inside path, the program will duplicate it to create an outside path. You can then enlarge or shrink the outside path to make a better fit.

KnockOut 2 offers several other handy new features, including multiple undos and CMYK support. This version also has superb new touch-up tools that let you restore colors lost during processing.

Even with these new features, this program could use some better path-creation tools. In addition to the lasso

Rating:  1/2

Pros: Easy to use; able to mask complex transparencies and fine detail.

Cons: Needs better mask-cutting tools, such as spline tools.

Company's estimated price: \$329; upgrade, \$149

OS compatibility: Mac OS 9, Mac OS X

Company: Procreate, 800/772-6735, www.procreate.com

tool, we'd like to see spline tools—either Bézier or natural.

Macworld's Buying Advice

KnockOut 2 is a great tool for complex masking work, and if you use KnockOut 1.0 or 1.5, the automatic path-creation tools make it well worth its \$149 upgrade price.—BEN LONG

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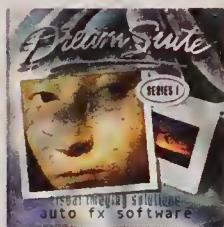
Choose 141 at www.macworld.com/getinfo

DreamSuite

Add Photorealistic Effects in Mac OS 9 and Mac OS X

IF YOU'VE EVER SPENT TIME TRYING to create a photorealistic effect—for example, painting a crease or wrinkle into an image—then you'll want to take a close look at Auto FX Software's DreamSuite, a collection of 18 effects. It can be installed as a stand-alone application (in Mac OS 9 and Mac OS X) or as a set of Photoshop plug-ins (in Mac OS 9).

DreamSuite creates "real-world" effects—borders, photographic frames, wrinkles, and folds—interactively, and it renders those effects at any resolution.



It gives you an incredible level of control; for example, the Wrinkle effect lets you paint wrinkles directly on your image in real time, and the Tape effect gives you controls for everything from the tape's "age" to what its edges look like. All the filters include powerful tools that allow you to adjust lighting, reflection, and shading.

On the downside, there's no undo command, and DreamSuite's interface takes over your entire screen, making it difficult to prepare an effect in relation to another part of an image.

Macworld's Buying Advice

DreamSuite's effects filters provide an incredible level of control. If you need to create photorealistic effects, you won't find a better set of tools.—BEN LONG

Rating: 4

Pros: Photorealistic effects; extremely detailed control.

Cons: Interface consumes entire screen; no undo command.

Company's estimated price: \$299

OS compatibility: Mac OS 9, Mac OS X

Company: Auto FX Software, 800/839-2008, www.autofx.com

Monochrome Handhelds

Two PDAs That Take Your Data to Go

THOUGH PALM OS-BASED PDAs have been the choice of Mac users since the PalmPilot showed up in 1997, today's models sport even more features and cooler case designs. We tried out the m125, from Palm, and the Visor Neo, from Handspring—both of which offer good storage options—and found the Visor Neo to be the worthier road warrior.

Two for the Road

Both of these PDAs have 8MB of on-board RAM, enough to hold quite a few applications and thousands of addresses and appointments. Both also have 33MHz processors, which can handle most commands in an instant.

The m125 has a curvy, U-shaped design, and its casing is a bit smaller than the Neo's. But the m125's screen is disproportionately tiny, making text difficult to read.

To use the Neo, you must remove the cover completely, which means you have to find a place for it. In contrast, the m125 has a lid that flips over and behind the PDA—a more convenient design.

Unfortunately, Palm Desktop, the software that lets you sync your Palm OS device with your Mac, is not yet

HANDSPRING VISOR NEO

Rating: 4 1/2

Pros: Many expansion options.

Cons: Awkward cover; SpringBoard modules are relatively large.

Company's estimated price: \$199

OS compatibility: Mac OS 9

Company: Handspring, 888/565-9393, www.handspring.com

PALM M125

Rating: 3 1/2

Pros: Uses very slim storage modules; ergonomic design.

Cons: Disproportionately tiny screen; limited expansion possibilities.

Company's estimated price: \$199

OS compatibility: Mac OS 9

Company: Palm, 800/881-7256, www.palm.com

compatible with Mac OS X or the Classic environment. If you use OS X, you'll have to reboot into OS 9 to connect with either PDA.

Both PDAs have slots for media cards that can store files such as MP3s, photos, and reference volumes. These storage methods work quickly, seamlessly, and easily. The m125 accepts both SD (Secure Digital) and SmartMedia cards, which you can keep in a wallet. The Neo's slot supports SpringBoard backup modules, some of which can accommodate SmartMedia and Compact Flash cards. But unlike the slot in the m125, SpringBoard slots are not just for storage cards—they can handle peripherals such as MP3 players and GPS receivers, significantly extending the Neo's expandability.

Macworld's Buying Advice

The Palm m125 is certainly an attractive PDA. But if expansion options and an easy-to-read screen are what you're looking for, you'll prefer the Handspring Visor Neo.—DAVID WEISS



Portable Power The Handspring Visor Neo (left) and Palm m125 offer slick ways to carry your data wherever you may roam.

Timbuktu Pro 6.0

Controlling Remote Macs Is Simple in OS X

WHEN YOU WANT TO control the graphical interface of a remote Mac running OS X, the command line isn't going to help you—you need remote-control software that lets you go beyond the command line.

Remote Control

Server administrators and others who control remote Macs will be pleased by Timbuktu Pro 6.0.1, which allows Macs running OS X to control and be controlled by other computers using Timbuktu, whether they're running OS X, a classic Mac OS as early as OS 8.6, or even Windows. In addition to allowing screen sharing, Timbuktu lets you exchange files with remote servers, chat with other Timbuktu users, and even send audio messages.

Netopia has introduced several changes to make Timbuktu compatible with OS X. For example, Timbuktu's familiar quick-access menu on the Mac's menu bar, which allowed users to control and monitor access and launch Timbuktu in a flash, is no longer displayed. Instead, Timbuktu Pro 6.0.1 generates a floating menu that hovers atop the menu bar, posing as a menu-bar icon. But since it's not really on the menu bar, it can often float above true menu-bar items, obscuring them.

Mac OS X is a multiple-user operating system, which means that files and folders on a hard drive can have

Rating: 1/2

Pros: Mac OS X native; stable; reliable.

Cons: Slow file transfers; no AppleTalk support.

Company's estimated price: \$95 (single-user license)

OS compatibility: Mac OS 9, Mac OS X

Company: Netopia, 800/485-5741, www.netopia.com

different access restrictions, depending on the user who is currently logged in. Timbuktu Pro 6.0.1 honors those restrictions, allowing remote administrators access only to areas that the currently logged-in user has access to.

One key feature is missing from the OS X version of Timbuktu: support for connections via the AppleTalk protocol. Given OS X 10.1's improved support for AppleTalk, which is still in use on many Mac networks, it's a disappointing omission.

Though the new version adds support for the transfer of multigigabyte files, Timbuktu-enabled file transfers aren't as speedy as FTP transfers, and they slow down the system much more than copying files in the Finder from a mounted server does. The Timbuktu file-transfer client also fails to show the contents of the OS X desktop unless you navigate through the hard drive to the Desktop folder for the currently logged-in user.

Macworld's Buying Advice

With Timbuktu Pro 6.0.1, OS X systems have become full members of the Timbuktu family, and that's great news. This version's file-transfer features aren't particularly strong, but they're not the reason you buy Timbuktu—you buy it because it's an excellent, stable tool that lets you observe and control distant Macs and PCs.—JASON SNELL



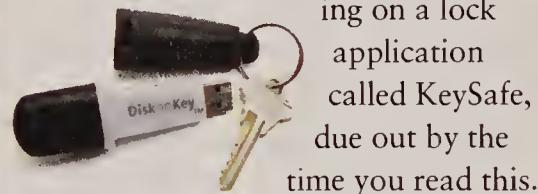
I See You Controlling an OS 9-based server from OS X is easy with Timbuktu Pro 6.0.1.

DiskOnKey

Portable USB Flash Drive
Is No Flash in the Pan

A USB FLASH DRIVE IS ABOUT THE size of a seven-stick pack of gum and works with any computer that has a USB port. DiskOnKey, available in four sizes from 8MB to 128MB, has a big advantage over the other USB flash drives on the market: it autoloads its driver so you don't have to install any software to mount the drive, a feature that extends its portability.

True to its name, DiskOnKey comes with a detachable key ring. It doesn't have a switch for locking the device, although M-Systems is work-



ing on a lock application called KeySafe, due out by the time you read this.

In our performance tests, we copied 12MB to the drive in roughly 37 seconds—not fast, but acceptable.

DiskOnKey worked flawlessly in Mac OS 9. Although we were able to use it in OS X, we got an error stating that it hadn't been put away properly even after we unmounted it. M-Systems knows of the bug and is working with Apple on a solution.

Macworld's Buying Advice

Flash memory drives are expensive when compared with their larger hard-drive cohorts, but if you need portability and just a few megabytes of storage, DiskOnKey is worth the price.—KRISTINA DE NIKE

Rating: 1/2

Pros: Mounts automatically; basic functionality in OS X; very portable.

Cons: Expensive for capacity; no provision for locking.

Company's estimated price: 8MB drive, \$30; 128MB drive, \$150

OS compatibility: Mac OS 9

Company: M-Systems, 866/347-5665, www.diskonkey.com

Wireless Mice

Cord-Free Devices Clear Desktop Clutter and Offer Great Options

BY MATHEW HONAN

Wireless mice or trackballs, free from cords or mouse pads, can open up a surprising amount of desktop space. We tried the Kensington Turbo Mouse Pro Wireless trackball, the Microsoft Wireless Intellimouse Explorer mouse, and two mice from Logitech: the Cordless MouseMan Optical and the Cordless Optical Mouse.

Each goes well beyond the standard one-button configuration of any Apple mouse. The Cordless Optical Mouse, Cordless MouseMan Optical, and Wireless Intellimouse Explorer have three, four, and five buttons, respectively, as well as scroll wheels. The most tricked-out of the bunch is the Turbo Mouse Pro Wireless, which sports five buttons, a scroll wheel, and six DirectLaunch buttons that can be used to start applications and to jump directly to Web sites and files.

All of the wireless devices we tested have superb control-panel software (available for Mac OS 9). Both Microsoft and Kensington allow users to set up application-specific functions for each button; Logitech provides only systemwide controls. At press time, Kensington was the only company with final OS X-compatible drivers, downloadable from their Web site.



The Logitech Cordless MouseMan Optical

The Kensington software is by far the most flexible, allowing users to make the most customizations for program-specific settings. Each of the six DirectLaunch buttons along the top of the trackball can be programmed to launch Web sites, applications, AppleScripts, or files. Each of the five main buttons can be set up to perform customized tasks—everything from control-clicking to pasting text—in different programs,

particularly handy for users who spend a lot of time switching between various applications.

The Logitech software is very basic, with the exception of the superfluous Web Wheel application, a confusing circular configuration of customizable buttons that take you to preselected Web sites and/or applications. Microsoft's software, while better than Logitech's in terms of the level of customization it allows, still lags behind Kensington's overall. But Kensington's software is missing an essential feature that both Logitech and Microsoft provide: a battery-life indicator.

Both the Wireless Intellimouse Explorer and the Cordless MouseMan Optical are designed for right-handed users. Southpaws will want to stick with the Turbo Mouse Pro Wireless or the Cordless Optical Mouse.

Macworld's Buying Advice

All of these are excellent input devices for daily use. Power users accustomed to trackballs would do well with Kensington's Turbo Mouse Pro Wireless, but for average users who want a wireless optical mouse without all the extras, Logitech's Cordless MouseMan Optical can't be beat. **m**

Mice without Tails

COMPANY	PRODUCT	MOUSE RATING	COMPANY'S ESTIMATED PRICE	CONTACT	PROS	CONS
Kensington	Turbo Mouse Pro Wireless	4 1/2	\$130	800/235-6708, www.kensington.com	Best software in this group; most buttons; Mac OS X drivers; ambidextrous.	Large footprint.
Logitech	Cordless MouseMan Optical	4	\$70	800/231-7717, www.logitech.com	Well-designed software; good mix of buttons.	Not available for left-handed users.
Logitech	Cordless Optical Mouse	4	\$50	800/231-7717, www.logitech.com	Ambidextrous; good software.	Fewest buttons in group.
Microsoft	Wireless Intellimouse Explorer	4 1/2	\$75	800/426-9400, www.microsoft.com	Well-designed software; good mix of buttons.	Not available for left-handed users.

Stitcher 3.1

Stitching Program Can Create Asymmetrical Panoramas

FOR CREATING VIRTUAL-REALITY environments or complex panoramic images, Realviz Stitcher is a better choice than many stitching programs that ship with digital cameras and scanners. Most panorama



Creative Panoramas With Stitcher, you can combine separate images to create an unconventionally shaped panorama.

programs produce simple, rectangular panoramas. With Stitcher you can create unusually shaped panoramas, as well as 360-degree VR environments.

Stitcher's interface is easy to use. Load your JPEG or TIFF images into the Image Strip window, and then drag them into the workspace window. Fine-tuning tools include sophisticated focal-length controls and an impressive Equalize command that evens out differences in exposure and color among various frames.

For final renderings, Stitcher supports everything from planar (flat) images in JPEG or TIFF formats to spherical, cubic, or cylindrical VRML, Macromedia Shockwave, and QuickTime VR files.

Stitcher is a good program, but it's not stellar. Performance in OS X

Rating: 1/2

Pros: Excellent interface for creating VR scenes and oddly shaped panoramas.

Cons: Sluggish performance.

Company's estimated price: \$499

OS compatibility: Mac OS 9, Mac OS X

Company: Realviz, 415/615-9800, www.realviz.com

was twice as slow as in OS 9. In addition, creating a basic, rectangular panorama takes more work in Stitcher than in other stitching applications.

Macworld's Buying Advice

While Stitcher 3.1 may not be the fastest stitching program, its support for VR formats and unique interface make it an ideal tool for creating panoramic environments.—BEN LONG



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A Perfect 10

**APPLE'S OS BOOSTS
BUSINESS-CRITICAL APPLICATIONS**



Unless you just returned from a tour of Pluto,

you've no doubt heard the promises Apple made to its users about OS X version 10.1's myriad new features—and hoped they were true.

Now, several months after the release of version 10.1, it's clear that Apple has delivered on those promises. The Mac's newest OS combines the stability and speed of Unix with the unparalleled ease of use and convenience of its predecessors.

"Because the Mac OS is so intuitive and easy to learn, people can spend their time using the Mac to do their work instead of spending time learning how to use it," says Lise Prown, computer center manager for the State University of New York's

(SUNY) Art Workshop campus in Peekskill, New York. About 1,800 computer artists, hobbyists, businesspeople, and students attend classes at the Peekskill campus each year to master new techniques and technologies.

The list of new features in 10.1—including DVD Player, CD-ROM burning, digital camera integration, and improved support for dual processors—further guarantees the Mac's continued leadership in multimedia. Other features reinforce the Mac's

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I'd rather create clocks than invoices.

If I wanted to keep books all day, I'd have been an accountant.



Roy Fox, Founder, Fox Clocks, Hollis, Maine
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“Because the Mac OS is so intuitive and easy to learn, people can spend their time using the Mac to do their work instead of spending time learning how to use it.”

—Lise Prown, computer center manager, SUNY Art Workshop campus

alter ego, that of a business workhorse. For example, enhanced file transfer and sharing over Linux and Wintel-based networks make it suitable as a cross-platform solution in mixed-machine environments. In addition, new applications and peripherals that support 10.1 will help businesspeople do their jobs more easily.

ANCHORING THE FLEET

Ease of use and rock-solid stability are just two of many reasons to upgrade to version 10.1. First,

10.1 heralds the future and will anchor the Mac line for years to come. Even now, it's the default OS shipped on all new Macs.

“Everyone needs to keep up with new technology,” says Debbie Krikun, a SUNY professor of computer graphics. “Whether you hold a job, freelance, or run your own business, you must be familiar with the newest software; you just can't get by with outdated skills.”

No matter if you're upgrading from an earlier Mac OS or purchasing a new machine with

10.1 preinstalled, you'll find a lot to like. For example, Aqua, 10.1's surreally beautiful liquid-like interface, delivers up crisp antialiased text, transparent windows, and animated menus.

One small caveat, however. The fresh look of 10.1 comes with some new and reworked keyboard shortcuts. It won't take you long to master them, but the sooner you become familiar with them the better. Fortunately, the new commands are more intuitive and that will make them easier to learn. For instance, Command-M now minimizes a window where it previously created an alias.

Just how much time will it take to master 10.1's new features? According to SUNY's Prown, very little indeed. “The transition from 9 to 10.1 was

easy. It quickly connected to all of the network servers. The old and new interfaces are very similar and Aqua is incredibly cool.”

That easy transition suits SUNY's Krikun just fine. “When you get skilled with a computer you have less patience, not more,” she says. “You don't want to spend your time waiting for things to happen.”

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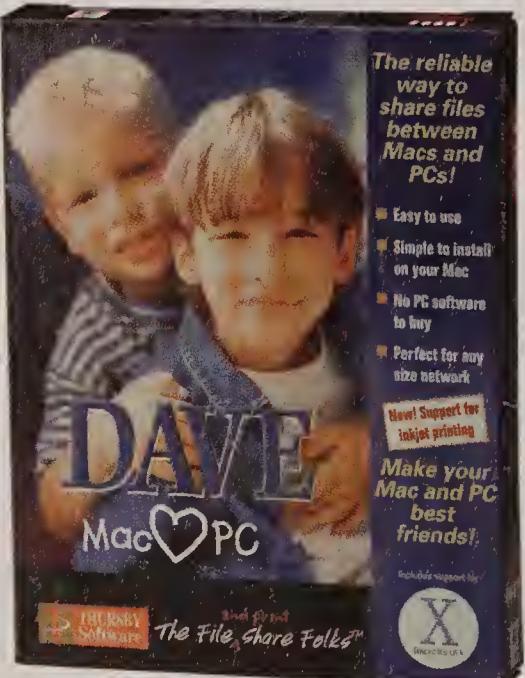
Most people don't want their computers making decisions for them and you're probably no exception. Fortunately, 10.1's new interface can be tuned to accommodate anyone's preferences. For instance, 10.1 replaces its predecessor's Control Panels with an “Aquafied” System Preferences utility. Together with 10.1's new Dock, these advances enable you, and not the OS, to customize your machine's look, feel, and behavior. The appropriately named Dock keeps folders, files, documents, and URLs as well as application and disk icons, ready for immediate use.

While the Dock makes finding files and folders easy, there are times you will need more robust search features. Version 10.1 adds a new view to Finder, Column. Similar to Windows Explorer, the Column view displays folders in the left column and a detailed list of the folder's contents in the dialog box's right column.

Finder's new Go menu gives you fast access to your favorite files and folders, such as access to network file servers or your Home folder. In 10.1, each user has his or her own Home folder where they can store music, documents, images, and anything else to which they want fast, exclusive access.

FILE FUSION

Third-party software developers are supporting and enhancing the 10.1 OS. For example, if you want more robust, bidirectional file transfer and sharing between Windows PCs and Macs as well as Mac to Mac, you'll find the added muscle in DAVE 3.1 from Thursby Software Systems Inc.



DAVE 3.1 from Thursby Software brings robust, bidirectional file transfer and sharing between Windows PCs and Macs as well as Mac to Mac.

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(www.thursby.com), Arlington, Texas. Of special interest to telecommuters and travelers, DAVE's built-in TCP/IP architecture enables anywhere, anytime remote connections to your Mac or a PC via the Internet. For example, DAVE's Domain Logon feature enables Mac users to log onto a password-protected Microsoft network as if they were directly connected to the PC network.

DAVE improves on Apple's native file-sharing abilities. For instance, Apple's SMB (Server Message Block) offers a command line interface only, while DAVE's easier to use browser-based graphic interface simplifies network navigation. What's more, DAVE allows Mac users to easily mount other users' shared directories, eliminating the need to download or copy files to a local drive.

Other new features in DAVE 3.1 include support for long file names (exceeding 31 characters) and additional printer support allows users to see, and print to, shared inkjet and PostScript printers.

MONEY MATTERS

It's all too easy to get caught up in OS X 10.1's array of new features. Ultimately, however, 10.1's

real world value is in its ability to run more powerful applications that can solve everyday business problems—including helping you to manage your finances.

Using the right accounting package can make the task a lot easier. The leading accounting package for the Mac, AccountEdge, from MYOB US Inc., Rockaway, N.J. (www.myob.com/us), lets you spend your time running your business—not learning accounting principles.

A combination accounting and financial management system for small businesses, AccountEdge delivers all basic accounting functions, such as accounts payable, accounts receivables, and inventory management, plus online banking, time and material invoices, and contact management.

Despite its wealth of features, the program is easy to use. You can choose from 100 sample Chart of Accounts that you can modify when you set up your business. Its 160 reports help you to better understand where your money comes from, where it goes, and why.

Other timesaving features include automatic reconciliation with downloaded bank data, and full compatibility with MYOB's Windows-based Plus accounting package, so exchanging files and financial information with Wintel machines is transparent. Do you use QuickBooks? AccountEdge can convert and import your data. Optionally, MYOB's technicians will do the conversion for a reasonable fee.

Before you begin to track your finances, however, you need to generate revenue. Small business advisors are fond of recommending that potential entrepreneurs "find a new need and fill it," or "find a way to do something faster or cheaper."

Joy Kruse did. A 25-year-old university graduate with a degree in political science, Kruse

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ScanSoft's OmniPage Pro X for Macintosh is the only optical character recognition (OCR) software designed specifically for the OS X platform.

frames. The application uses an image captured by a digital camera and overlays pictures of frames stored in a database. "We're a small business. The Mac allowed me to create a program that can help make us more successful, more competitive," says Kruse.

While Kruse created a custom software application to automate a once time-consuming process, the Mac also offers business users many off-the-shelf packages that can help eliminate manual procedures. For example, the just-announced OmniPage Pro X for Macintosh, from ScanSoft Inc., Peabody, Mass. (www.scansoft.com), is the only optical character recognition (OCR) software designed specifically for the OS X platform. It provides up to 50 percent more accuracy while minimizing the time users have to spend editing scanned documents. ScanSoft combined technologies from three OCR engines to provide the increased accuracy.

In addition, Pro X converts PDF (portable document format) documents that contain text, tables, and graphics into fully formatted editable digital documents. By rerendering the information once locked in PDF documents and converting it into Word, Excel, HTML (for posting pages directly to Web sites), and other formats, you can repurpose a vast reservoir of information. During the rerendering, Pro X maintains the alignment and cell styles of spreadsheets and tables.

Similarly, users can create a searchable PDF file directly from a paper-based document with a single mouse click. Pro X for the Macintosh supports four types of PDF files: normal, PDF with image substitutes, PDF image on text, and PDF image only.

returned to school to master computer art. At the same time, she wanted to help her family's eyeglass business in Bangkok, Thailand. Using Adobe Photoshop and Macromedia's Director, Kruse designed a custom application that shows the shop's customers how they will look "wearing" any of hundreds of eyeglass

MULTIMEDIA STORAGE DEMANDS

Your creativity will get a boost in 10.1 as well. For example, the iMovie2 movie maker, iTunes music organizer, QuickTime 5, plus increased support for USB and FireWire digital cameras, speakers and microphones, make it easier than ever to transform your 10.1-powered Mac into a feature-packed creative studio.

So it's good to know that there are solutions available for storing all those audio and image files. MacWarehouse (www.macwarehouse.com) offers a variety of 10.1-compatible LaCie (www.lacie.com) internal and external storage high-performance hard drives that range up to 120 GB in capacity.

Some of the larger drives from LaCie, based in Hillsboro, Ore., and Massy, France, transfer data at a mind-bending 50 MB/sec, making them ideal for storing up to 1,000 hours of MP3 music files and upwards of 75 hours of compressed video files. You can daisy chain up to 63 LaCie drives for practically unlimited storage. LaCie's FireWire external hard drives come bundled with a suite of utilities providing disk management, formatting, partitioning, and maintenance (including a RAID option). LaCie's FireWire drives are hot pluggable, meaning that you can add or remove devices without a time-consuming reboot.

LaCie's Ultra160 SCSI family of 15,000 rpm drives deliver transfer rates up to 160 MB/sec burst and 47 MB/sec sustained, making the Ultra160 line ideal for demanding multimedia professionals. Capacities range from 18 to 36 GB and the drives are fully compatible with Ultra2 and UltraWide SCSI standards.

Increasingly, after-market manufacturers and software vendors are stepping up the release of 10.1-compatible peripherals and applications. How well can the OS X 10.1-powered Macs meet the ease of use and durability expectations that users demand?

"Every day, all day, our 100 Macs get pounded on," says Prown. "I have to say that they continue to work great and our people love using them."

PROJECT MANAGEMENT:

Bill Laberis Associates
www.laberis.com

MANAGING EDITOR:

Colleen Frye

DESIGN:

Top Dog Design - Suzanne Peterman

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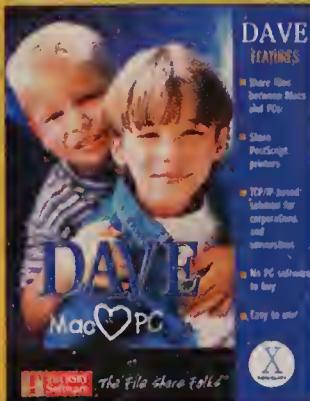
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1 1/2

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HARRY POTTER

AND THE

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The Game Room

This month we look at releases from two companies at opposite ends of the Mac-gaming market. Freeverse Software, best known for its “boxless” software—or shareware—and electronic card and board games, brings us *WingNuts*, an arcade-style action game. MacSoft, a heavyweight in the commercial Mac-game market, delivers a role-playing game, *Vampire: The Masquerade—Redemption*.

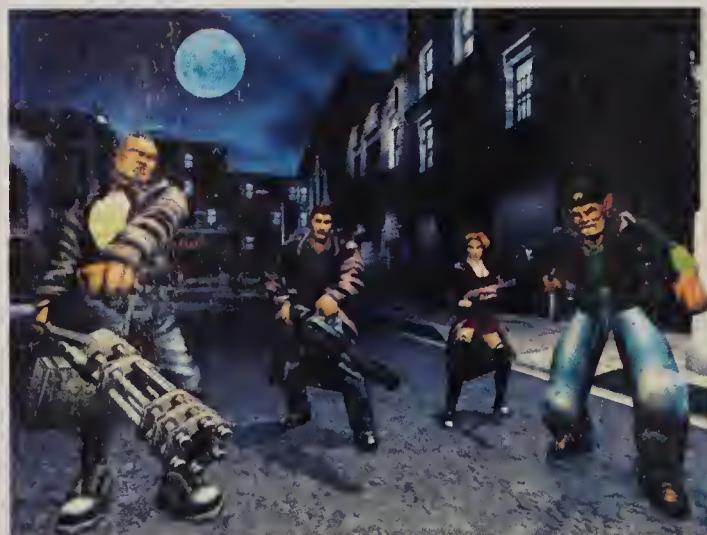
Children of the Night

Vampire: The Masquerade—Redemption was a long time coming to the Mac. The game was announced in July 2000, but it didn’t ship until late in 2001. Was it worth the wait? For some hard-core role-playing game (RPG) fans, the answer is a definite yes. But *Vampire* will probably not have a lot of mainstream appeal, in part because RPGs in general have limited appeal, and because of some technical shortcomings.

In this game, you assume the role of Christof Romauld—formerly a crusading medieval knight, now a bloodsucking fiend (through circumstances quite beyond his control). Moving through time from the Middle Ages to the modern era, you visit various urban settings on different continents, on a quest to avenge your fate. Based on the pen-and-paper RPG developed by White Wolf, *Vampire* takes place in a 3-D arena. You’ll explore this world from a third-person perspective—behind and slightly above your character, as in games such as *Tomb Raider*.

A Lot to Sink Your Teeth Into

Vampire has elements of a 3-D-action game, but at its core it’s an RPG. The main interface gives you, as Romauld, many ways to interact with the game’s environment, and it provides you with easy access to Romauld’s inventory and accoutrements. Although there are many commands to get used to, it was surprisingly easy to learn how to use the keyboard to navigate.



Bite Me A 3-D engine and a deep story make *Vampire: The Masquerade—Redemption* an immersive experience.

Even in single-player mode, you can have multiple companions in your party. Unfortunately, the game’s interface falls short when it comes to controlling them. Battle sequences seemed especially chaotic; getting all the characters to do what I wanted sometimes drove me to fits of frustration, even though I followed the instructions meticulously. However, the ability to put characters in different attack modes (defensive, offensive, and neutral) is helpful.

Vampire also has a multi-player mode that lets users play a true RPG-style game, through the use of a Storyteller feature. The Storyteller player (similar to a Dungeon Master, for you Dungeons & Dragons geeks) leads the others—as many as three—through a scenario of his or her creation. This system works wonderfully if you can find other players; I didn’t have a lot of luck.

Vampire’s overall production quality is good. The voice acting is a notch above that of many games, and the level design has plenty of gorgeous graphical elements. Without a doubt, though, the best aspect of this title is its deep story. It’s not a game you can get into in a few minutes, but if you spend a few hours, you’ll be rewarded with a rich tale.

Playing *Vampire* on a Power Mac G4/500 running a stock Apple Rage 128 Pro graphics card with 16MB of RAM, I experienced some graphical glitches. During transitions to new areas and levels, the screen would at times produce a colored static fuzz that resembled bad TV reception.

continues

If Vampire had been released for the Mac in late 2000, as was originally planned, its lack of OS X compatibility would have been forgivable. But now, when almost every major new release runs on OS X, it's a jarring shortcoming.

The upside is that the game retails for less than \$30—a very fair price.

On a Wing and a Prayer

Memories of playing classic arcade games are often better than revisiting the experience itself. I'm happier when a game developer takes a tried-and-true idea and builds a modern game around it—so I'm delighted with what Freeverse Software has done with WingNuts. It's a thoroughly modern, brilliantly executed Mac game that uses a bona fide classic as a major source of inspiration.

Curse You, Red Baron!

In WingNuts, the evil Baron von Schtopwatch has developed a nefarious plan to take over the world—he's figured out a way to put his legions of robots behind the yokes of aircraft, ranging from balsa-and-canvas biplanes to armored jets and helicopters.

As the temporal navigator, you must try to stop him. You have an airplane that's much more modern than Snoopy's Sopwith Camel: it's a fast, nimble jet fighter, which is upgraded throughout the game. From atop the deck of your aircraft carrier, you have to single-handedly down squadrons of the Baron's robot-controlled planes, through 30 progressively more difficult levels of play. Along the way, you can recharge your shields, collect bonuses, replenish fuel, and power up your weapons systems. Running out of fuel is a constant concern, and depending on how efficiently you fly, you may have to perform midair fueling maneuvers.

The Baron's military arsenal isn't limited to swarms of planes, helicopters, flying mines, the occasional dirigible, and other airborne menaces. You'll have to destroy ground targets such as missile launchers, antiaircraft guns, and radar towers by dropping bombs on them. You can also pick up an extra bomb power-up that enables you to cluster-bomb ground and sea targets.

As each level ends, your score is tallied and you're given the opportunity to save the game. Pressing the escape key on your keyboard will pause the game mid-level, and if you click on the Hide button in the resulting window, WingNuts quickly disappears altogether from the view of your boss or the resident office snoop.

WingNuts has all the hallmarks of a Freeverse Software game, including unique humor. If the Baron himself isn't needling you with Teutonic-tinged Dr. Evil-style remarks ("My master plan is going according to my master plan!"), Freeverse's inimitable mascot Jen is offering you advice or encouragement ("Parachutes are your friends!").



Wild Blue Yonder As you move through levels in WingNuts, shooting down the Baron's squadrons gets progressively more difficult.

WingNuts' production quality is top-notch. The game's core engine was tooled by Mark Andersson, whose claim to fame is an earlier Freeverse arcade game, Burning Monkey Puzzle Lab. The graphics have terrific detail. When you hit aircraft, ships, and ground installations, a trail of smoke billows from them. Explosions result in fiery showers of sparks and flames. And falling pieces of robot-controlled planes impact the ocean's surface with a ripple.

The sound effects are great, too. You can hear the roar of individual engines, weapons firing, even the *plunk* of wreckage falling into the ocean. Joel Pleiman and Andrew Tokuda did a great job with the music, which resembles an orchestral movie soundtrack. Resident Freeverse artist Steven Tze's graphics (with an assist from Andersson) are, as always, colorful and a joy to behold.

Macworld's Buying Advice

If the idea of a classic action game updated for modern Macs appeals to you, do try WingNuts. Vampire: The Masquerade—Redemption is worth a look if you're a fan of role-playing games, and if OS X compatibility is not a concern. **m**

Though he's pale, nocturnal, and sharp of tooth, MacCentral Senior Editor PETER COHEN's love of garlic, and his queasiness at the sight of blood, rules out any vampiric lineage.

For more game reviews, visit www.macworld.com/columns/gameroom/.

VAMPIRE: THE MASQUERADE—REDEMPTION

Rating: 

Pros: Involved and complex story line; beautiful graphics; unique multiplayer capabilities.

Cons: Graphical glitches on some systems; obtuse combat system.

Company's estimated price: \$30

OS compatibility: Mac OS 9

Company: MacSoft, 800/229-2714, www.wizworks.com/macsoft

WINGNUTS

Rating: 

Pros: Simple, addictive, pulse-pounding fun; beautiful graphics; glorious soundtrack.

Cons: Classic action-game style may not appeal to some.

Company's estimated price: \$30

OS compatibility: Mac OS 9, Mac OS X

Company: Freeverse Software, 212/929-3549, www.freeverse.com

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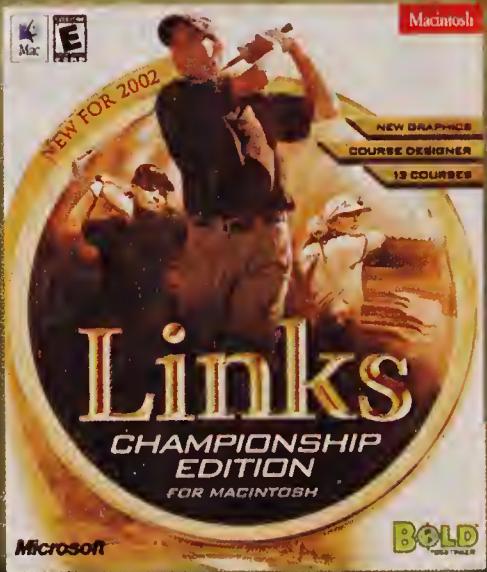
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IMAGINE THAT YOU'VE MOVED INTO a new home and lost all your possessions. Your couch, gone. A favorite coffee mug, disappeared. Those beloved slippers, vanished.

You may feel similarly displaced when you move to Mac OS X. Facing Aqua for the first time is jarring enough, but on top of that, many of the items you've nurtured over the years—your e-mail messages, browser

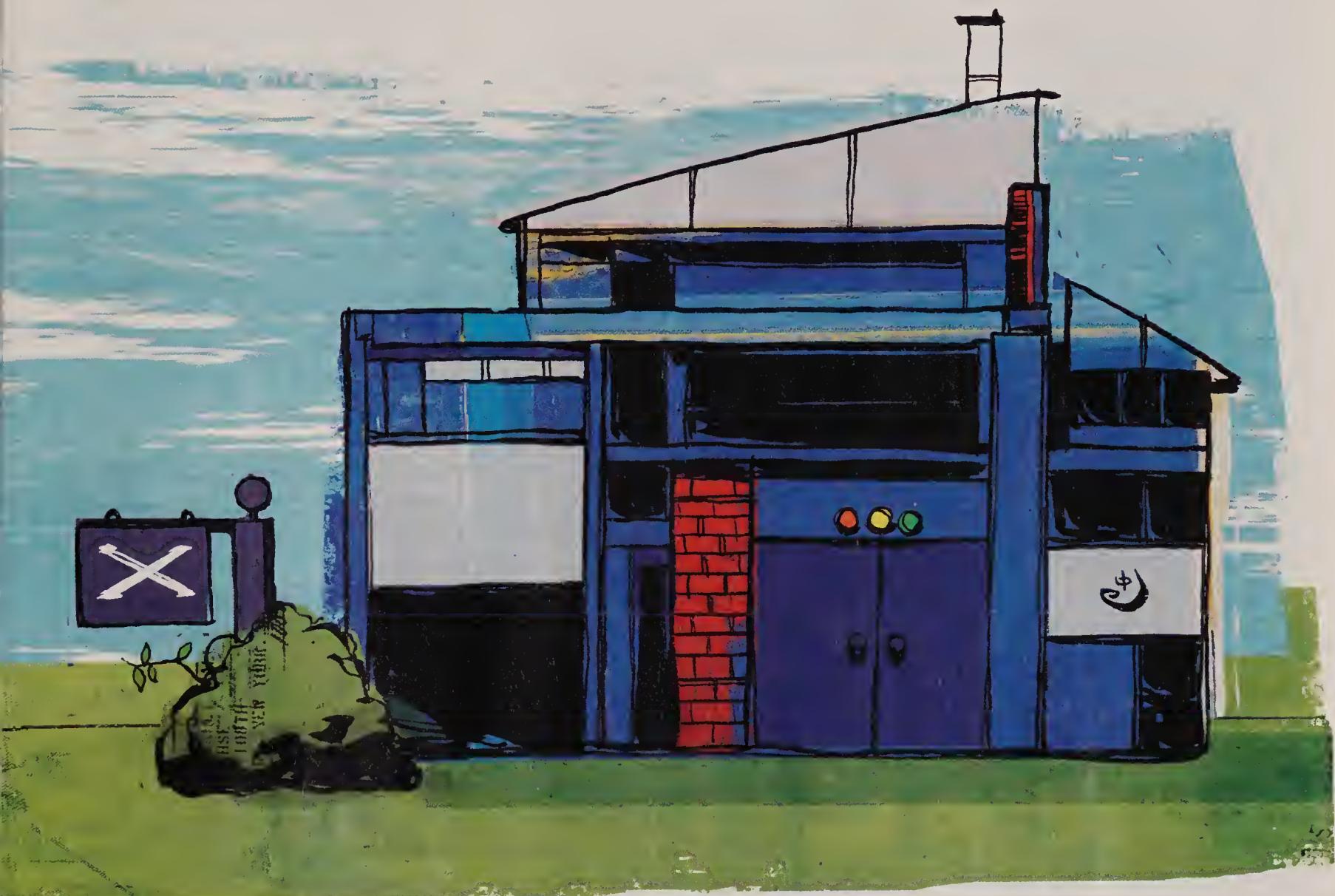
bookmarks, Internet settings, and contact database—seem to be missing.

Fortunately, OS X doesn't have to feel like an unfurnished apartment. Some of your information is simply hidden; some you can bring with you from OS 9. And if you install OS X carefully, you can prevent some from vanishing. Join us as we show you how to move from OS 9 to OS X as painlessly as possible.

Preparation and Installation

Because there are still far more applications available for the classic Mac OS than there are for Mac OS X, and because a number of hardware peripherals don't have OS X-compatible drivers, installing both OS 9.2 and OS X on your Mac makes sense. If your applications won't run in OS X, they may work in OS X's Classic environment (which requires OS 9.1 or later)—and they'll certainly work if you boot into OS 9.

by CHRISTOPHER BREEN



in MAC OS X

TRAUMA OUT OF MOVING FROM OS 9

It's a good idea to install OS X and OS 9.2 on separate partitions or drives. There are rare OS X problems that can be resolved only by reinstalling OS X (or by erasing the partition on which OS X resides). With the two operating systems on separate partitions, you can erase OS X without endangering your OS 9 files. If you want to be extra careful with your data, you can either save your OS X documents to your OS 9 partition or create a third partition and place your

items there. Your data will remain safe, even if you have to erase OS X. (This partitioning scheme works best if you have a roomy hard drive—20GB or more.)

When Apple Installs OS X If you have a recently made Mac, Apple has already installed OS 9 and OS X on the same partition for you, and all the software on your drive is already backed up on the Software Restore discs that came with the Mac. Before you partition your drive, you need to

back up only files and applications that you have added to it.

With some iMac models, though, Apple doesn't provide separate installation discs for OS 9 and OS X. To work around this, boot your Mac from the Software Install disc and use Drive Setup to partition the drive. Then use the Software Restore discs to install a full set of software on each partition. Finally, boot your Mac from the OS 9 partition, open your OS X partition, drag all the OS 9 folders to

the Trash, and empty the Trash. (For more on this, see "Before You Move.")

Back Up First Partitioning a Mac's hard drive requires that you erase all the drive's contents, so before you begin your installation, back up your OS 9 data (for more information, see "Save Your Data," September 2001)—after you've partitioned your drive and installed OS 9, you will restore your data to the OS 9 partition.

After you've backed everything up (again, the following process *will erase all the data on your hard drive*), you're ready to partition your drive. Boot your Mac from the OS X disc by inserting the disc and double-clicking on the Install OS X icon. After your Mac restarts, select Open Disk Utility from the Installer menu. In the Disk Utility window, select the hard drive you want to partition, and then click on the Partition tab. In the Volume Scheme pop-up menu, select the number of partitions you want to create (you'll need at least two). Click on each partition, give them names, and be sure that you've selected Mac OS Extended from the Format pop-up menu (see "Splitting Makes the Difference"). When you've configured

Mac from the OS 9 disc or your Mac's Software Install disc. Restore the data you backed up before the installation. Then boot from the OS X disc and install OS X on the OS X partition you created. To save space on your OS X partition, click on the Customize button in the Easy Install window and disable any localized languages you don't need.

After you install OS X and configure it using the Setup Assistant, hit the Web and download any drivers you need for your peripherals. Also select System Preferences from the Apple menu and run Apple's Software Update to see what it offers up—for example, printer drivers and OS updates (see "Staying Up-to-Date").

Make Your Move

Now that you've installed the two operating systems and brought OS X up-to-date with the Software Update application, you're ready to start integrating your old files and favorites into OS X.

Going Native In addition to looking for updates by way of Software Update, you should seek out updates to your OS 9 applications. With the right update, a program may run natively in OS X.

AppleWorks 6 is an excellent example (www.apple.com/appleworks/update).

This update makes the OS 9 version of AppleWorks an OS X-native application as well. (The updater doesn't create an additional copy of

AppleWorks; rather, it updates the copy you have, so you may want to make an alias of AppleWorks and put it in your OS X Applications folder.)

AppleWorks is an exception in this regard. You can upgrade most productivity applications only by



Staying Up-to-Date After installing OS X, run Software Update to check for drivers and updates you may need.

purchasing a separate OS X-native version. However, many nonproductive applications—namely, games—can be made OS X compatible. At press time, you could update at no charge Blizzard's StarCraft and StarCraft: Brood War, Ambrosia's Farazel's Wand, id's Quake III Arena, MacSoft's Fly II, and Aspyr's The Sims and The Sims: Livin' Large.

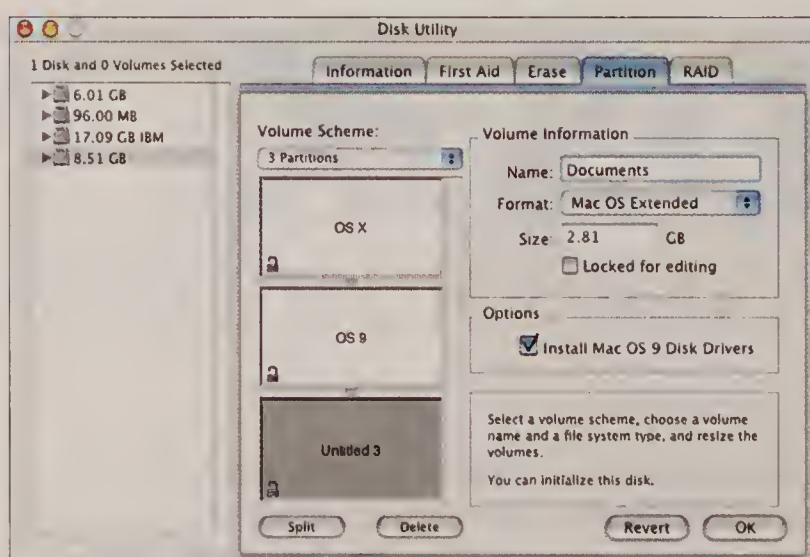
Of course, OS X-native versions of your Mac software can open files created with earlier versions. You'll have no problem, for example, opening any FileMaker, Quicken, and Microsoft Office documents with OS X versions of these applications.

But you can do more than just open OS 9 document files with OS X applications. Employing the following tricks, you can also use many of your OS 9 settings files.

Operate under an Alias

By creating aliases of many of your old favorites and placing those aliases in the proper location, you can share files between OS 9 and OS X. For example, you can use this alias trick to maintain a single list of Internet Explorer or Netscape bookmarks that you can access from OS 9 or OS X. Likewise, you can share your Eudora mail and iTunes playlists.

To do so, locate the OS 9 file or folder you want to share, make an alias of that item, and move it to the appropriate folder on your OS X partition. Applications expect these files



Splitting Makes the Difference Splitting your hard drive provides OS 9, OS X, and your documents a safe—and more easily recovered—haven.

things to your satisfaction, click on OK to partition your drive.

After you've partitioned the drive, install a copy of OS 9.1 or 9.2—9.2 is preferable because it's more compatible with OS X—on the partition you've reserved for OS 9. Boot your

or folders to have specific names—Bookmarks.html, for example—so be sure to remove the word *alias* from the end of file names. Here are some ways you can use this trick to share your Internet bookmarks, mail, and music libraries between operating systems:

Internet Explorer In OS 9, make an alias of the Favorites.html file (System Folder: Preferences: Explorer). Place this alias in OS X's Explorer folder, in the Preferences folder inside the Library folder of your directory. Typically, the hierarchy is *directory*: Library: Preferences: Explorer, where *directory* stands for the name of your directory in OS X's Users folder (directories are named by users).

Netscape First make an alias of the Bookmarks.html file. With Netscape, locating that file is more of a chore. In the classic Mac OS, you'll find it by following this path: System Folder: Preferences: Netscape Users: *your profile name*. Then place the alias in an even more obscure OS X folder—*directory*: Library: Mozilla: Profiles: *your profile name*: *some oddly named folder* (where *directory* is the name of your directory in OS X's Users folder, and *some oddly named folder* has a name like "4ezedmal.slt").

Eudora Make an alias of the entire Eudora folder found inside OS 9's Documents folder, and place this alias in the Documents folder within your Users folder.

iTunes Open the Documents folder on your OS 9 volume, make an alias of the iTunes folder, and copy it to the Documents folder in your Users folder.

Microsoft Office You can share your Word, Excel, and PowerPoint template files by opening the Microsoft Office folder on your OS 9 partition, creating an alias of the Templates folder, and moving that alias to the Microsoft Office X folder on your OS X volume. Note that a Templates folder already exists in the Office X folder, so you must first move that Templates folder to another location.



BEFORE YOU MOVE

BEFORE YOU INSTALL OS X, prepare your Mac to shoulder the load.

Maximize Your Mac You need at least 128MB of RAM, but 256MB is better. Set aside 1.5GB of hard-drive space for the OS X installation.

For best performance, install Mac OS X only on a Mac that shipped with at least a G3 processor. Processor upgrades such as those from Sonnet (949/587-3500, www.sonnettech.com) and XLR8 (770/564-5682, www.xlr8.com) are not officially supported by Apple, but both companies have released software to make their G3 and G4 upgrades work under OS X 10.1. Upgrading an older Mac's processor may not be worthwhile; these Macs' slower system-bus speeds and weaker graphics capabilities may cause OS X to run slowly.

Prepare Your Peripherals Some printers, third-party input devices, PCI cards, and removable media drives aren't yet compatible with OS X. Check with the makers of your products for updated drivers and firmware upgrades, or look for the drivers at www.apple.com/downloads/macosx/drivers.

Analyze Your Applications Thanks to OS X's Classic environment, you can use many of your old applications in the new operating system. However, some programs either won't function in Classic or perform sluggishly there. If your business requires that you use non-OS X applications, or if you're a gamer who demands peak performance from your digital diversions, you may need to try OS X-native replacements—or you might consider putting your OS move on hold. If your hardware isn't supported in either OS X or its Classic mode—your Palm Pilot or scanner, for example—expect to occasionally boot into OS 9 to use these devices.

Regrettably, you can't share an Entourage or Outlook Express database between the two operating systems. In order to move your Entourage or Outlook Express messages and contacts to the OS X version of the application, you must import them. You can do so at any time you

launch Entourage: use the Import command in Entourage's File menu.

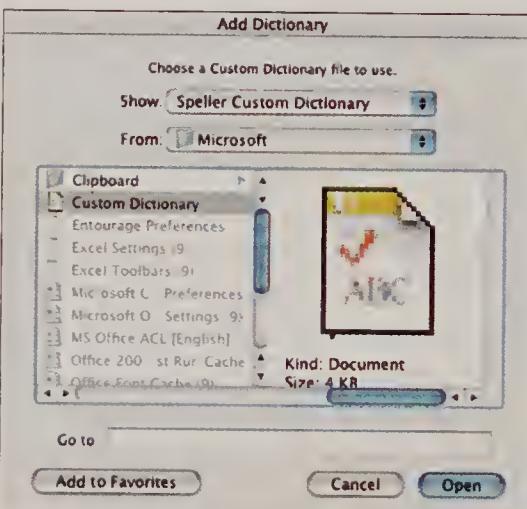
Proper Pointers

You can share some files without resorting to aliases. By configuring an application such as Word to look in a *continues*

specific location, you can share older files with the OS X version of that app.

Word Custom Dictionary To share your Word custom dictionary, launch the OS X version of Word, select Preferences from the Word menu, and select Spelling And Grammar in the Preferences window. Click on the Dictionaries button and then on the Add button in the resulting Custom Dictionaries window. Go to the Microsoft folder in the System Folder's Preferences folder, highlight the Custom Dictionary file, and click on Open (see "My Words!").

Now Contact and Now Up-to-Date Launch the OS X versions of these apps, select Open from the File menu,



My Words! You can make your OS 9 Custom Dictionary file perform double duty.

and locate the primary files on your OS 9.2 (or earlier) partition. Select the file, select the Make This My Primary File option, and click on Open.

Working with Fonts

OS X keeps fonts in several locations, which can make managing them maddening. In this section, we'll explain how OS X organizes fonts and how you can put that knowledge to use.

OS X recognizes typefaces in the Fonts folder of your Classic environment, so there's no need to copy your old fonts to OS X. If you want to add new fonts to OS X, however, you have choices other than just installing them in your Classic Fonts folder.

Customized Sets for Individuals

You can easily create different sets of fonts for each individual who shares

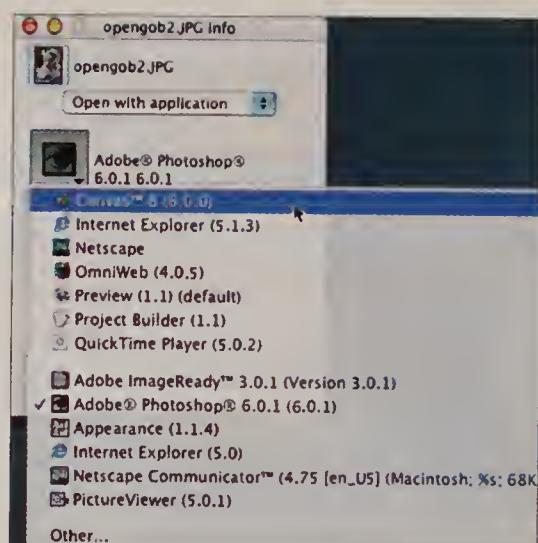
a Mac. Say that a graphic designer at your company is going on leave and an accounting temporary worker will use the designer's computer in her absence. The designer's Fonts menus can remain cluttered with hundreds of typefaces while the temp's Fonts menus are relatively sparse. To install fonts for individual users, drag those fonts into the Fonts folder in each user's Library folder.

Fonts for All To add fonts that everyone sitting down at your Mac can use—for example, when you want to update your Mac with new fonts for a project that many people will be working on—add them to the Fonts folder in the Library folder at the root level of OS X. If you're running a network file server and you want to give networked users access to nonstandard fonts that a document served from your Mac requires, place them in the Fonts folder in the Library folder that's in the Network folder at the root level of your hard drive. OS X maintains a library of fonts for system use and displays as well. You should not add to or delete the fonts in this folder, but if you're curious, you can check them out—System: Library: Fonts.

You may need to remove the three-letter extensions from some font names so OS X can recognize them. Unlike the classic Mac OS, OS X identifies file types by extension name. If a font has an extension that's unfamiliar to OS X or one that identifies a different file type, OS X may not recognize it. For example, the fonts included with Deneba's Canvas 8 have *.ttf* appended to their names (BerliTBol.ttf, for example). Until you remove *.ttf* from the fonts' names, OS X refuses to acknowledge them.

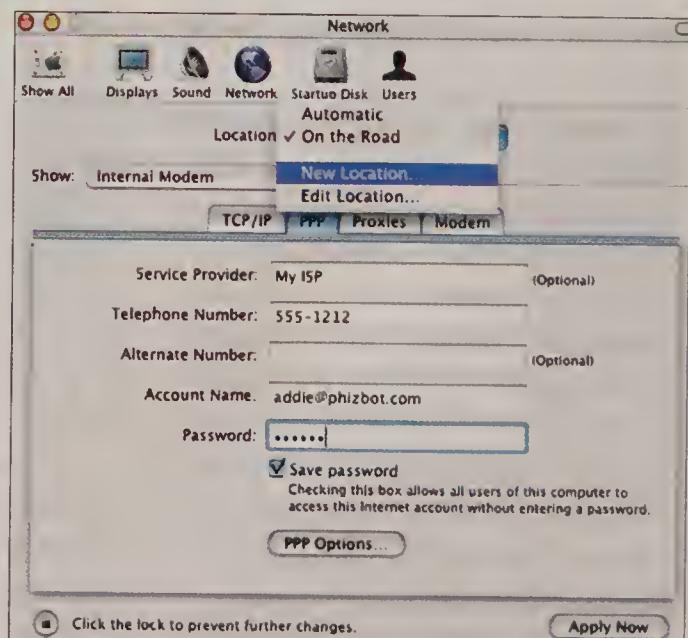
Keeping Classic at Bay

OS X's Classic environment is sometimes a bit too eager to boot up when you double-click on a document. For example, when



Pick Your Program From OS X's Show Info window, you can choose an OS X-native application to open your OS 9 files.

you double-click on a JPEG digital photo file, the Classic environment slowly comes to life and Picture-Viewer launches. To save on start-up time and stay in native OS X apps, you can permanently select the operating system (OS X) and app (Preview) that opens that file. Simply click once on its icon, select Show Info (⌘-I) from the Finder's File menu, select Open With Application from the Show Info window's pop-up menu, and select an application. OS X graciously groups compatible applications by operating system—with OS X-native applications first and classic applications, separated by a space, thereafter (see "Pick Your Program").



Location, Location, Location Easily create multiple Internet connections with the Network system preference's Location feature.

When you want all files of that type to open in the same application, click on the Change All button and confirm your choice in the window that appears. On the other hand, if you want to quickly preview those files in an OS X application but have them open in a classic application—with Photoshop files, for example—leave the Change All button alone.

Making Your Net Work

It's a rare Mac that doesn't communicate with other Macs or the Internet. You had OS 9 networking down pat, but as you know by now, things work differently in OS X. Here's how to make your OS X Mac chummier with the world around it.

Internet Connections Unlike OS 9, OS X doesn't include Internet Setup Assistant. However, if you've already configured your Mac for the Internet in the old Mac OS, OS X will copy some of your settings and place them in the Network system preference.

In those cases where OS X doesn't grab the settings you need—if you've created several configurations in OS 9.2's TCP/IP control panel, for example—you'll have to rely on pen-and-paper technology. Launch the TCP/IP control panel in the Classic environment, open your various configuration files, and jot down any settings you need—IP address, Subnet mask, router address, and name server address, for example. Unfortunately, the Classic environment won't allow you to open the Remote Access control panel, so if you need to retrieve dial-up phone numbers from Remote Access, you'll have to boot into OS 9 and then open Remote Access.

Local Customs OS X lacks OS 9.2's Location Manager, but it does support multiple locations in the Network system preference. To create a new location, select New Location from the Location pop-up menu (see "Location, Location, Location"). Name the location, choose a connection method from the Show pop-up menu, and insert your new settings in

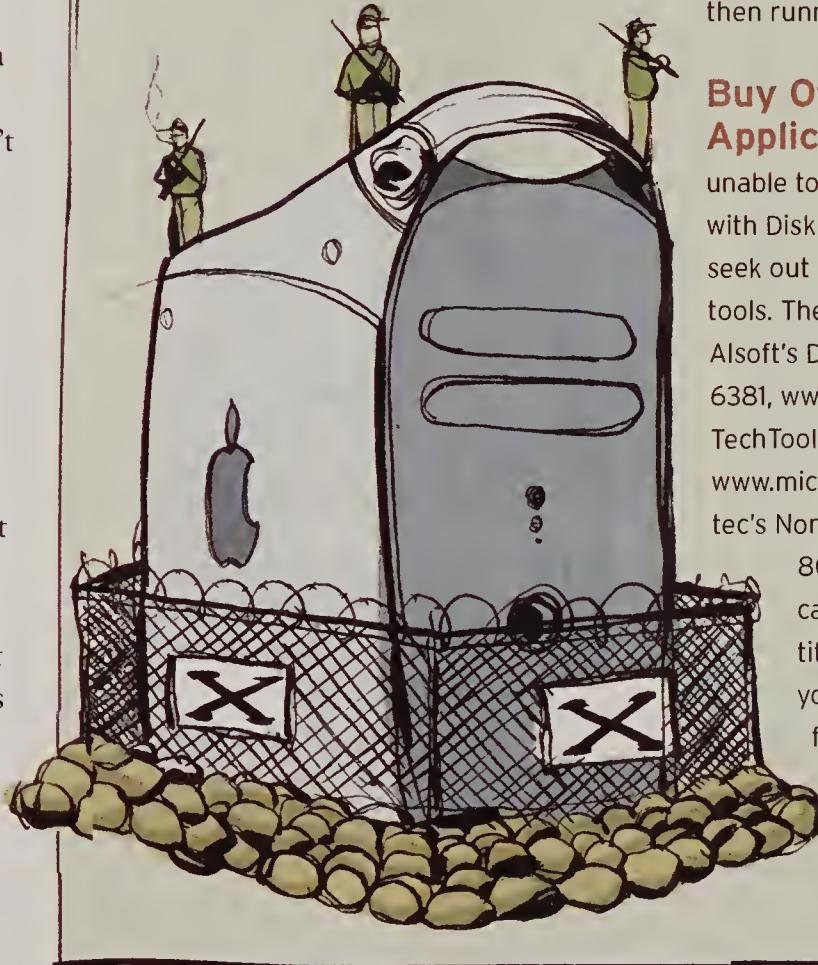
PROTECTING YOUR MAC

HAVING MAC OS X installed is of little value if you wake up one day to discover your OS X volume corrupted and your data gone. One danger of moving to OS X now is that there are few native troubleshooting utilities for the new OS—and as we go to press, there are *no* utilities that can restore a bootable OS X volume.

Your OS X volume isn't completely susceptible to any damage the fates toss its way, however. You can take steps to protect it.

Run Retrospect Although version 4 of Dantz's Retrospect (925/253-3000, www.dantz.com) can't restore a volume in place (due to the current lack of support for this feature in OS X), version 5 of this venerable backup utility—and the update to OS X that will allow it to work—should be available very shortly. In the meantime, current Retrospect users should create an OS 9 partition on their hard drives, save their OS X documents and third-party application installers to this partition, and use the OS 9 version of Retrospect to back up the partition. If you save your documents to an OS X partition, OS X's Unix file permissions may prevent Retrospect from restoring your files properly.

Run Disk First Aid If OS X regularly crashes (or won't start at all), try booting from your OS X disc, selecting Disk Utility from the Install menu, and then running Disk First Aid.



Buy Other Repair Applications

If you are unable to repair your OS X volume with Disk First Aid, it's time to seek out some more-capable tools. The latest versions of Alsoft's Disk Warrior (800/257-6381, www.alsoft.com), Micromat's TechTool Pro (800/829-6227, www.micromat.com), and Symantec's Norton Utilities (408/517-8000, www.symantec.com) can repair your OS X partition. Boot either from your disk utility's CD or from the OS 9 volume where you've installed your utility; then diagnose and repair your problem.

the proper areas—your ISP's phone number in the Telephone Number field (revealed when you click on the PPP tab), for example.

Network Connections Logging on to another computer on your network—or on the Internet—is as easy as selecting Connect To Server (⌘-K)

from the Finder's Go menu and entering the computer's IP address in the Connect To Server window's Address field. To enable sharing over AppleTalk, open the Network system preference, choose the connection protocol your network uses (AirPort or Ether-

GET MORE INFORMATION

ALTHOUGH MACWORLD INTENDS TO LEAD the charge in providing the OS X information you need, we know we can't be your *only* guide. Here are some of our favorite resources.

Apple's OS X Page (www.apple.com/macosx) You'll find links to technical information, software downloads, technical support, the Apple Store, and (of course) a fair smattering of marketing information.

Apple's Mac OS X Support Page (www.info.apple.com/usen/macosx) This page offers an overview of OS X technical-support issues, with links to FAQs, late-breaking news, system requirements, and upgrades.

Apple Discussions—OS X (<http://discussions.info.apple.com/webx?macosx>) This Apple bulletin board is a place to discuss issues surrounding OS X and to ask other OS X users for help (registration required).

Macworld Forums (www.macworld.com/cgi-bin/ubb/Ultimate.cgi) Macworld.com's OS X forum is another good place to seek help from other Mac users. Moderated with a lighter hand than Apple's forums, this forum also provides a place to vent your OS X-related frustrations (registration required).

Mac OS X Hints (www.macosxhints.com) Rob Griffith's Mac OS X Hints page answers OS X questions in easy-to-digest chunks. Here, you can ask and answer questions, and there are links to other OS X sites and to OS X shareware and freeware apps. This site contains a substantial amount of Unix information. Worth a download is Rob's \$10 Mac OS X Solutions Guidebook (<http://homepage.mac.com/rgriff/osxguide2.html>).

MacFixIt OS X Page (www.macfixit.com/macosx.shtml) Ted Landau's MacFixIt is a terrific repository of all issues related to troubleshooting in OS X, and MacFixIt's message boards are great places to swap OS X information.

VersionTracker (www.versiontracker.com/macosx/index.shtml) VersionTracker is the clearinghouse for shareware, freeware, and commercial updates for OS X and OS 9.

MacInTouch OS X Reader Reports (www.macintouch.com/mosxreaderreports.html) MacInTouch posts the experiences of its readers in a series of reader reports. Though chock-full of helpful information, you may need to weed through pages of text.

Ilene's Machine: OS X Links (www.ilenesmachine.com/macos/osxrelease.shtml) Ilene Hoffman's comprehensive list of OS X links includes links to many hard-to-find technical documents on Apple's Web site.

net, for example), click on the AppleTalk tab, and enable the Make AppleTalk Active option.

A handy way to gain fast access to your networked volumes (including your iDisk) is to mount them on your OS X Desktop, make aliases of them, place those aliases in a folder, and place that folder in the Dock. When you want to connect to these volumes, click and hold on the volumes folder, and select the volume you want from the contextual menu that appears. (For more on networking in OS X, see *Mac OS X Secrets*, September 2001.)

Printer Connections OS X bids a not-so-fond farewell to the Chooser. In OS X, you make printers available to your Mac via the Print Center

utility (found in OS X's Utilities folder). To add your printer, launch Print Center and click on the Add Printer button in the Printer List window. In the pane that appears, select the protocol by which your printer is connected to your Mac—AppleTalk, LPR Printers using IP, or USB—and choose your printer when it appears in the window.

If your printer isn't accessible via Print Center because there's no OS X-compatible driver for it, don't give up hope. You can open the document in a classic application, select your printer from the Classic environment's Chooser, and then print the document. Note that if you've used OS 9's USB Printer Sharing to

access a networked USB printer, this trick won't work. OS X doesn't support USB Printer Sharing natively or in the Classic environment.

The Last Word

With its Unix foundation and Aqua interface, Mac OS X is uncharted terrain. But it doesn't have to feel completely foreign. Now that your files are in place, your links to the Internet and network are established, and your printer is present and accounted for, you and your Mac should feel much more at home. **m**

Contributing Editor CHRISTOPHER BREEN is the author of *Mac 911* (the column) and *Mac 911* (the book, from Peachpit Press, 2002).





GO PRO with iDVD 2

It's Never Been Easier
to Make Slick DVDs
on Your Mac—Our Expert
Guide Shows You How

by Jim Heid

Illustration by Geoff Spear

IF YOU'VE WATCHED A DVD movie, you already know that the DVD format combines superb video and audio quality, high capacity, and durability, and it tops that off with random-access convenience—all things videotape can't touch.

Apple's SuperDrive and iDVD 2.0.5 (see the review elsewhere in this article) can take you from watching DVDs to creating them. iDVD's new power and customization options—

including far more control over the design of your discs' navigation menus—make this version great for the business needs of professionals.

With iDVD, photographers and designers can assemble digital portfolios. Filmmakers and advertising professionals can distribute rough cuts of movie scenes and commercials to colleagues and clients. Employers can create in-house training DVDs and video archives of cor-

porate meetings. Videographers can design DVDs of weddings and parties. And home-movie buffs can preserve and share family videos and photographs.

Although iDVD's features are merely the tip of the DVD-authoring iceberg (for DVD-authoring products that pick up where iDVD leaves off, see "Beyond iDVD: Professional Options"), iDVD greatly simplifies the DVD-authoring process, so you can focus on your content instead of the technology. Creating a DVD is still a process with many steps, however—preparing your movies and images, designing navigation menus, and burning the final product to disc—and as simple as iDVD may seem, there are undocumented features and subtleties in each phase of the process. Here are some pointers to help you on your way.

Preparing Your Media

Like all DVD-authoring programs, iDVD isn't a content-creation tool. You create and edit your video, still images, and audio tracks in other programs, and you then use iDVD to assemble them. While you can prepare your content on any computer, keep in mind that iDVD 2 runs only in Mac OS X 10.1. And although Apple says it works only on G4 systems containing Apple's SuperDrive, we successfully tested iDVD 2 on an older G4 with a Pioneer DVR-A03 drive installed. (The DVR-A03 is the retail version of the drive that Pioneer supplies to Apple.)

Get Organized A simple DVD—for example, one containing a set of commercial rough cuts going out for client approval—might have only a few QuickTime movies on it. But a complex one—say, a video designer's portfolio or a wedding album—could have dozens of movies and hundreds of still images. To keep your DVD's assets organized, stash them and the iDVD project file itself in one folder on your hard drive. This will make backing up the project easier, and it will prevent iDVD from being unable

to locate a particular file. (This can be a problem for people who store some of their assets on external FireWire drives or network file servers that aren't connected to their computers all the time.)

Prepare Your Video You can burn nearly any kind of QuickTime movie to a DVD. It's best to start with a movie that has a 720-by-480-pixel resolution—the DVD standard. If the movie has a smaller resolution, iDVD enlarges it to fill the screen, resulting in a loss of sharpness, or *pixelation*. Many enlarged movies will still look surprisingly good when viewed on a TV set, though.

Export your edited video in DV format (most consumer DV camcorders use MiniDV). If you are using Apple's iMovie 2, choose Export from the File menu, and then choose For iDVD from the pop-up menu in the Export dialog box. If you're using Apple's Final Cut Pro, choose Export from the File menu, and then choose Final Cut Pro Movie from the Export submenu. From the Settings pop-up menu, select DV NTSC 48kHz. To speed up the export process, you can deselect the Make Movie Self-Contained option. If you do this, however, you must subsequently avoid moving or deleting any of the clips in your movie. To keep all of your project's assets in the same place, you might want to export self-contained QuickTime movies, even though this will dramatically increase the amount of disk space your project will use: DV-format video takes up 216MB per minute.

Length Matters iDVD 2 can burn as much as 90 minutes of video to a general-use 4.7GB DVD-R disc; the previous version of iDVD was limited to 60 minutes. But Apple still recommends keeping the length of individual movies to less than an hour, to avoid errors during burning.

Video quality is another consideration. On DVDs containing less than 60 minutes of video, iDVD compresses

at 8 megabits per second (Mbps), which is close to the 9.8 Mbps maximum of the DVD-Video standard and yields excellent quality. If you have more than 60 minutes on your disc, iDVD compresses at 5 Mbps, which yields lower-quality video.

Whether that higher compression is acceptable to you depends on your content. Scenes with a lot of motion—for example, dancers at a wedding reception filmed with a handheld camera—may exhibit chunky compression artifacts at 5 Mbps. On the other hand, relatively static scenes—talking heads photographed with a tripod-mounted camera—will probably look fine.

Setting Up for Slide Shows

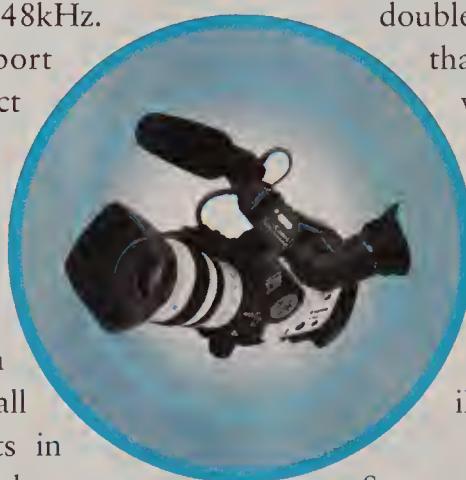
iDVD slide shows are a great way to share high-quality images. Digital photos look spectacular on TV, and they can't easily be copied and redistributed—both pluses for photographers creating portfolio discs.

To create a slide show, first click on the Slideshow button, and then double-click on the button that appears in the DVD window to display the image list (see "Making Slide Shows"). Add images to the slide show by dragging their icons into the iDVD window.

Small Stills Are Better

Some people may think that using high-resolution photos will produce the best results, but that's not so. Small images—640 by 480 pixels—yield excellent results. Huge images won't look any better, and they'll take longer to import and encode. The number of pictures you can have on a disc is limited by iDVD, however, not by disc space: you can have as many as 99 images per slide show, and as many as 99 slide shows and/or movies per DVD.

You can use any image-editing program to resize images for iDVD, but I'm particularly fond of the \$50 *continues*



iDVD 2.0

Update Provides More Design Control and Background Encoding

BY JIM HEID

iDVD 1 made creating a DVD as easy as clicking and dragging. But its simplicity came at the price of design flexibility: you could choose from several pre-formatted designs for your DVD menu screens, but you couldn't customize them. And the designs themselves were static; iDVD 1 (3½; *Reviews*, July 2001) didn't support *motion menus*, in which a menu's background and clickable buttons can themselves be movies.

iDVD 2.0.5 addresses these shortcomings and then some. The new release, which requires Mac OS X 10.1 to run, also provides improved video-encoding features that speed up authoring and let you burn more video to a DVD.

Like version 1 before it, iDVD 2 is now included with Power Mac G4 models that have a SuperDrive DVD burner. If you bought your SuperDrive-equipped Mac before iDVD 2's release, you can upgrade for \$20.

And if you have an external DVD burner based on the same Pioneer-built mechanism as the SuperDrive, I'm sorry: iDVD 2 supports only the SuperDrive, although it will work if you install the Pioneer DVR-A03 internal drive.

New Themes, Improved Authoring

iDVD 2 includes 14 menu-design templates, called themes. A few are generic, but most are aimed at specific types of content: weddings, sports, travel, kids, and so on (see "They're Playing Our Theme"). Nine of the themes provide motion menus—in the Wedding theme, for example, is a slowly turning bouquet of roses.

You can customize every aspect of a theme: by changing its background, by creating your own motion-menu backgrounds, and by positioning buttons anywhere on the screen. And unlike its predecessor, iDVD 2 lets you turn off the



They're Playing Our Theme iDVD 2.0.5's themes are fully customizable, and the Themes panel no longer obscures your work area, as it did in version 1.

Apple logo watermark that version 1 insisted on displaying in the lower right corner of your DVD's menu screens.

iDVD now lets you add background music to slide shows. Unfortunately, the slide-show interface is still just a vertically scrolling list of file names and thumbnail images. A storyboard interface would make arranging images easier.

One of the most time-consuming aspects of creating a DVD involves encoding the DVD's movies into MPEG-2 format. iDVD 2 streamlines this process by encoding movies in the background while you work. Thanks to Mac OS X's smooth multitasking, my Mac remained fast and responsive even during encoding.

iDVD 1 was also limited to a maximum of one hour of video; iDVD 2 bumps this up to 90 minutes, although video quality suffers a bit in this higher-capacity mode.

A Bug's Life

iDVD 1 had more bugs than a rain forest, and iDVD 2's debut was inauspicious, but last December Apple released an update that addressed the program's most serious flaws—including frequent burning failures with DVDs containing more than an hour of video.

Though my experience with version 2.0.5 was nearly trouble-free, one important glitch was an occasional inability to change fonts on buttons. iDVD 2.0.5 can also cause problems with OS X's System

Preferences: as of this writing, many people have reported that iDVD launches unbidden when they choose certain preferences, such as Displays, from the menu bar. After I updated to 2.0.5, my Displays menu-bar icon didn't respond at all.

Macworld's Buying Advice

If you need to be able to create chapters and subtitles for a DVD, or if you're creating a DVD that will be commercially replicated, with copy protection and other advanced features, you still need Apple's DVD Studio Pro (4½; *Reviews*, September 2001). But iDVD 2.0.5 is a splendid tool for home users and for professionals who want to burn slick-looking DVDs without a lot of authoring hassle.

iDVD 2.0.5

Rating: 3½

Pros: Attractive themes; supports as much as 90 minutes of video; supports background music for slide shows; motion menus; background rendering.

Cons: Awkward slide-show interface; some bugs.

Company's estimated price: With SuperDrive-equipped Power Mac G4 systems, free; upgrade (available until March 15, 2002), \$20

OS compatibility: Mac OS X

Company: Apple Computer, 800/692-7753, www.apple.com

iView MediaPro, from iView Multimedia (4½).

Reviews, August 2001); it provides batch-processing features that let you resize an entire folder of images with just a few mouse clicks—it's much faster than Adobe Photoshop, and it even runs in OS X.

Rotate Verticals When you take digital photos in vertical (portrait) orientation, your computer captures them in horizontal (landscape) mode. To compensate, you'll need to rotate them 90 degrees before importing them into iDVD. Otherwise, your images will appear sideways in your slide show.

Add Audio to Slide Shows With iDVD 2, you can add music or other background audio (such as recorded narration) to your slide shows. You can grab an MP3 track from iTunes by dragging it from the iTunes window to the folder that contains your project's other assets. Doing this creates a copy of the track, and you can then drag the copy into the Audio well of iDVD's slide-show editor.

You can also use Apple's QuickTime Player Pro to extract audio from CDs. In the Finder, drag the track to QuickTime Player's icon. Choose Export from QuickTime Player's File menu, and then choose Sound To AIFF from the Export pop-up menu

and 44.1kHz 16-Bit Stereo from the Use pop-up menu.

Keep in mind that you can't sell a DVD that contains copyrighted music—nor can you freely distribute a promotional DVD containing it—without licensing the music first.

In iDVD, matching your soundtrack to your slides is as easy as choosing an option from the Slide Duration pop-up menu. If you choose a specific duration—for example, if you set each photo in your portfolio to display for five seconds—iDVD repeats soundtracks that are shorter than the slide show's total length. If the soundtrack is longer than the slide show, iDVD simply stops playing the soundtrack after the last slide. And if you choose the Fit To Audio option, iDVD wisely times the image-changing interval to match the soundtrack's length.

Soundtracks and Manual Advance

Don't Mix If you suspect that viewers will manually advance through the images in your slide show—a busy person might not want to wait several seconds between shots or to look at every photo in your portfolio—think twice before you add a soundtrack to it. The audio will skip forward as viewers manually advance through the slide show; a choppy soundtrack is annoying, and it can detract from the professional nature of your DVD.

Authoring and Customizing

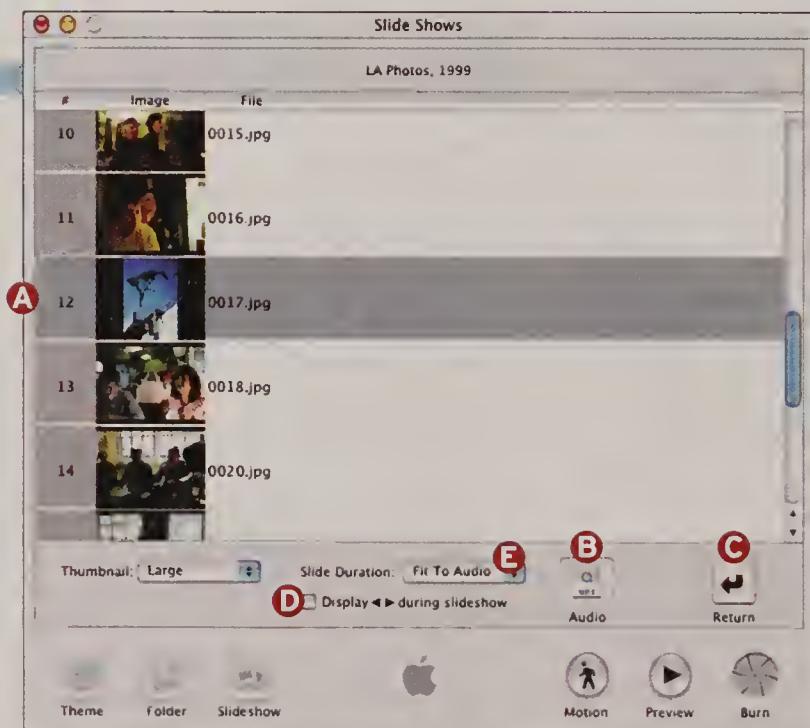
The DVD-authoring phase in iDVD 2 involves adding movies, creating slide shows, typing text for slide-show and movie buttons, and using iDVD 2's menu-design templates, called themes, to customize the look of your DVD's menus (see "Theme Basics").

Here's where iDVD 2 really outshines its predecessor. Your DVD can now have *motion menus*, in which the menu background—and even menu buttons—are movies. You can also have music playing while menus are displayed, and much more.

Customize Button Positions By default, iDVD 2 positions buttons on a fixed grid. This keeps buttons lined up nicely, but there are times when you might want to specify a button's location—perhaps to line it up with a custom background image.

To control button position, click on the Customize tab of the Themes drawer, and in the Button area, select the Free Position option. Now you can drag buttons wherever you like. To make sure your buttons—and text—will be visible on TV sets (which omit the outer edges of a video frame), choose the Show TV Safe Area command in the Advanced menu and be sure to keep your buttons well away from the dark border.

Multiple-Line Buttons When you drag a movie into iDVD 2's window, the program creates a button for it



Making Slide Shows

To make an iDVD slide show, drag images from the Finder into the Slide Shows window. The images play back in top-to-bottom order.

- A** To change playback order, drag images up or down. You can select multiple images by shift-clicking.
- B** To add background audio to the slide show, drag an MP3 file or QuickTime movie to the Audio well.
- C** Click on the Return button to return to a slide show's menu.
- D** When selected, this option superimposes arrows over the images as a hint to viewers that they can move back and forth in the slide show using their DVD remote controls.
- E** You can specify a duration for each image, or you can choose to have the slide show timed to match its audio. If the slide show has background audio, the Manual option isn't available.

Making Custom Motion Menus

Subtle use of motion can make your menus more attractive and engaging. You can see this in the motion menus that accompany iDVD 2: by using motion sparingly, they reinforce the DVD's theme.

In iDVD, a motion menu replays continuously, or *loops*, until the viewer makes a choice from the menu. Between each repetition, there's a momentary pause in the video and audio. You can't eliminate this pause—it's a side effect of how the DVD standard implements motion menus, and it occurs even on commercial titles created with high-end authoring programs.

One way professional DVD developers work around this pause is to create lengthy motion menus. If a motion menu's movie is five minutes long, only

those few viewers who stare at the menu for five minutes will see the pause between loops.

Unfortunately, iDVD doesn't permit this workaround—it limits your motion menus to 30 seconds. That means two things: first, you ought to think twice about music, since audio loops can grow tiresome very quickly; second, you should design the menu's movie with looping in mind. If you plan the movie so that its last frame is identical to its first, each loop point will be harder to notice. Apple's designers have done a fine job of this in iDVD's motion menus. In the Global theme, for example, the globe rotates exactly once, and when the movie loops, its rotation is almost seamless—except, of course, for that unavoidable momentary pause.

with the same name as the movie. If you want to rename the button, just select it and start typing. If you want to control the line breaks for a multiple-line name, you'll need to press option-return to start a new line.

Change the Background Perhaps you'd like your portfolio DVD's menu background to be a Photoshop-created collage of your work, or you want your in-house training DVD's menus to match your corporation's logo. You can change the background image of an iDVD menu by dragging an image into iDVD's main window. iDVD scales the image to fit; to avoid distortion, make the size of your custom background image 640 by 480 pixels. If your project contains multiple menu screens and you want each menu to have that background image, select *Apply Theme To Folders* from the Advanced menu. Conversely, if you've applied a background image to a folder menu and you want to apply the same image to the project's other menus, choose *Apply Theme To Project*.

If you decide you'd rather just keep the theme's original background, simply drag the custom background's

As for creating the movies, you can use any video-editing program (iMovie, Final Cut Pro, Adobe Premiere, and so forth). If you want the richly layered look of iDVD's Family theme, you'll need a program with compositing features, such as Final Cut Pro or Adobe After Effects.

Another great tool you can use to create motion menus is Prismo Graphics' \$699 India Titler Pro (888-123-1234; *Reviews*, February 2002), which includes dozens of animated background textures. More to the point, the textures animate with looping in mind: in the last few seconds of a 30-second animation, for example, the texture reverts to the way it appears in the very first frame.

Explore iDVD's built-in movies to get a feel for creating your own seamless motion menus, and then get to work.

image thumbnail out of the Customize panel's Image/Movie well.

Silence Your Motion Menus You may like the look of a motion menu but not want music to accompany it; a motion menu in iDVD can't be more than 30 seconds long, and short canned riffs can be tiresome when they repeat many times.

To remove a motion menu's music, drag the music icon out of the Customize panel's Audio well. It disappears in a puff of smoke, and your motion menu will be blissfully silent.

Stay Still Or perhaps you want some background audio but no moving menus. First, choose a theme that has no motion, or replace an existing motion theme's background with a static image. Next, drag an audio file or QuickTime movie into the Customize panel's Audio well. You must activate the Motion option in order to hear (and burn) your menu's background audio—iDVD will tell you to activate motion menus before you encode and burn your DVD.

Motion Menus and Buttons The motion-menu themes in iDVD also apply motion to your movie buttons: small, thumbnail versions of the movies play back when the menu is displayed. You can even specify which portion of the movie plays—just select its button and then drag the slider that appears above the movie to a particular spot.

There may be times when you don't want a movie's button to be a thumbnail movie: maybe the movie is dark, so its thumbnail version is illegible. In that case, just select the movie's button and deselect the Movie option that appears above it. You can now use the slider to choose a static thumbnail image for the movie.

Custom Motion Menus For even more control, you can make any QuickTime movie a motion-menu background, and with an application such as Adobe After Effects, you can create professional-level menus that *continues*



rival those in DVDs from Hollywood—just press the **⌘** key while dragging the movie into iDVD. You don't even have to start out with a motion-menu theme; you can **⌘**-drag a movie into any theme.

If your motion-menu movie is smaller than full-screen, iDVD scales it to fit. For the best video quality, make the movie's dimensions 720 by 480 pixels.

Because motion menus loop continuously, you'll want to design them so they aren't visually jarring when they repeat. See "Making Custom Motion Menus" for some tips.

Kill the Watermark iDVD 1 displayed an Apple logo in the lower right corner of every menu. That's swell if you work at Apple, but the rest of us might not want to provide free advertising on our discs. Fortunately, iDVD 2 makes it easy to get rid of the Apple logo watermark: choose Preferences from the iDVD menu, and then deselect the Show Watermark option.

Customize the Watermark If you want to add your own brand to a DVD, you can use iDVD to create a personal watermark graphic. To do so, you first need to understand where iDVD stores its attributes.

The iDVD application is part of a *package*—a kind of sophisticated

folder that stores iDVD's program code and other resources. (For more on packages, see "Mac OS X First Aid," October 2001.) Modifying iDVD involves editing some of the resources in the iDVD package.

To open the package, control-click on the iDVD application icon and choose Show Package Contents from the contextual pop-up menu that appears. The Finder then displays a directory window that shows the iDVD package's contents. Next, double-click on the Contents folder and then on the Resources folder. Locate the file entitled "watermark.tif." Drag a copy of the file to another folder if you want a backup; then use an image editor to create your watermark graphic, and save it as a TIFF file under the name "watermark.tif." Place that graphic in the Resources folder, and it will appear on your DVD menus when the Show Watermark option is selected.

If you're adventuresome, you can customize numerous aspects of iDVD with techniques similar to those I just described—including the size and shape of buttons and motion movies of iDVD's themes. As you explore the Resources folder, you'll find that iDVD's themes also live there. Each

theme is a package, too. You can modify the contents, but don't throw away or alter any resources whose purpose you don't understand—you could damage the program, lose unsaved work, and have to reinstall iDVD.

Tips to Burn

Now that you've massaged your media and made your menus, you need to burn the final product to DVD disc.

Preview First You can now buy DVD-R discs for around \$5 each—much cheaper than even a year ago—but it's wise to make sure that you're satisfied with the project before you commit your

vision to plastic. By clicking on iDVD's Preview button, you can use iDVD's remote control (which mimics that of a set-top DVD player) to step through your menus and spot-check your video and slide shows. If your DVD contains motion menus or background-menu audio, be sure to click on the Motion button before previewing, to get the full effect.

Run Lean When Burning Even though Mac OS X's multitasking foundation is much sturdier than Mac OS 9's, it doesn't hurt to give your OS a helping hand. When you're encoding—



Theme Basics

- A** To add a custom image or background movie, drag its icon to the Image/Movie well.
- B** To add music to a menu, drag an MP3 file or QuickTime movie to the Audio well.
- C** You can change the appearance of a menu's title (here, it's "Sales Conference") with these controls.
- D** Use this pop-up menu to change the appearance of a menu's buttons.
- E** Clicking on this button saves a customized theme for future use.
- F** When motion menus are active, a portion of each video plays in its button. To specify where playback begins, click on this button and then drag the slider.

Beyond iDVD: Professional Options

iDVD 2 is a fine program, but it only begins to tap the power of DVD technology. It doesn't let you divide a video into chapters for convenient navigation. It doesn't permit multiple audio tracks (for example, different languages) to be assigned to a single video stream. iDVD 2 can't encode a DVD so it plays back only in certain parts of the world, and the program doesn't provide precise control over the MPEG-2 compression process.

If you're developing a commercial DVD title, you'll probably want one or more of these features, so you'll have to turn to a high-end DVD-authoring program. Apple's \$999 DVD Studio Pro (415/893-8000; *Reviews*, September 2001) is an excellent choice. DVD Studio Pro also provides a simple scripting language with which you can refine a DVD's interface. You can use scripts to track a user's progress in a training DVD, to add navigation shortcuts to DVD menus, and much more.

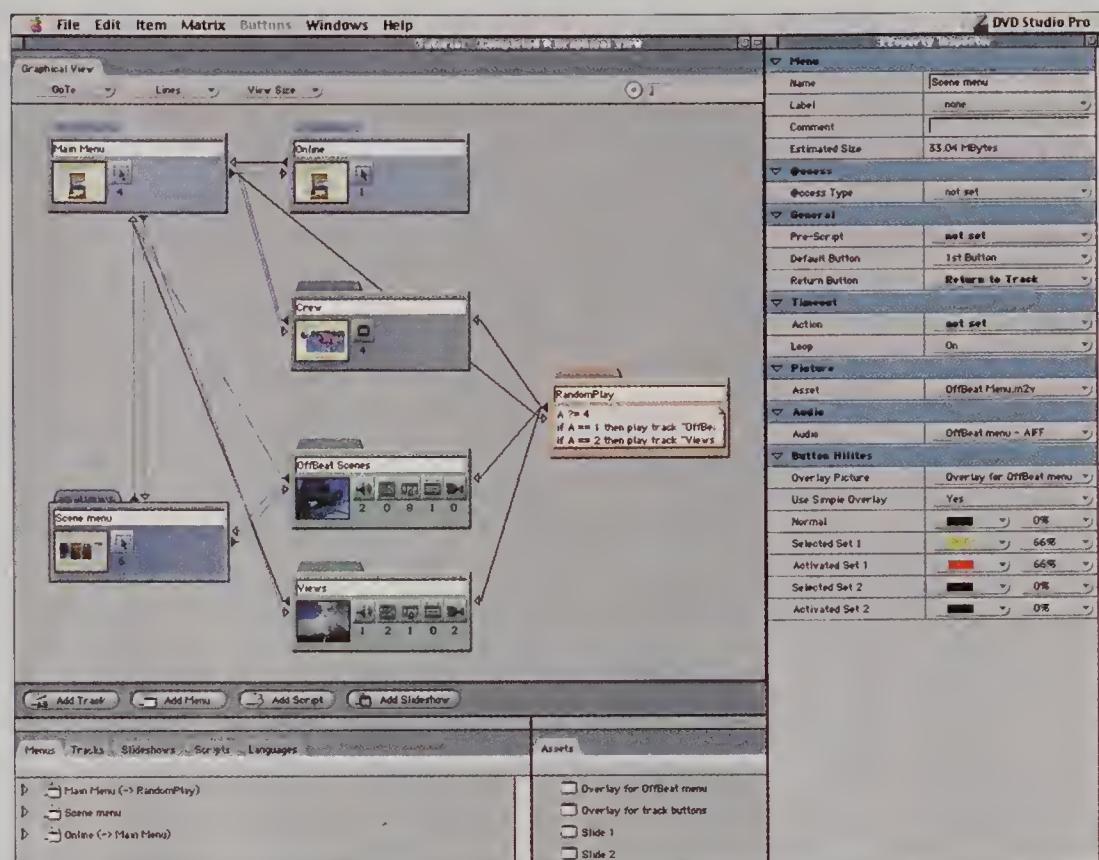
DVD Studio Pro can also control the DLT drives that you must use if you're creating the high-capacity DVDs commonly used for DVD releases of major movies. And DVD Studio Pro supports region encoding (which allows you to create discs targeted to specific geographical regions) and copy protection.

DVD Studio Pro's interface can be a bit daunting at first (see "First-Rate Author"), but you can turn to CD-ROMs such as New Constellation's \$69 *The Joy of DVD Studio Pro Masters Series Volume 1* (www.newconstellation.com), which contains prebuilt projects you can modify to suit your needs.

Sonic: A Sound Alternative?

Sonic Solutions (415/893-8000, www.sonic.com) also offers some Mac products. Sonic's DVD Fusion system is available in two flavors: the \$800 DVD Fusion LE, which provides software-only MPEG encoding; and the \$4,000 DVD Fusion SE, which includes a PCI expansion card that accelerates MPEG encoding and lets you preview your DVD on an external monitor—DVD Studio Pro can't do that.

Both DVD Fusion products include a program called Author, which helps you



First-Rate Author In DVD Studio Pro, you link menus, video tracks, and slide shows—and even create scripts to control their behavior—for professional-quality DVDs.

design your DVD's interactivity. Some aspects of Author are more straightforward than DVD Studio Pro. For example, Author provides a timeline display that enables you to visually set and rearrange chapter markers. In DVD Studio Pro, you must use dialog boxes for such chores.

Despite this advantage, I found DVD Fusion a second-best alternative to DVD Studio Pro. One reason is that some advanced features, such as the ability to specify region encoding, are extra-cost options for an already pricey product. What's more, DVD Fusion doesn't support dual-processor Macs or the SuperDrive (SuperDrive support should be ready by the time you read this).

Meanwhile, Apple is working on the next release of DVD Studio Pro. It's expected to ship in the first quarter of 2002, to run natively in Mac OS X (the current version won't run even in OS X's Classic mode), and to provide tighter integration with Final Cut Pro.

DVD-Authoring Accessories

DVD Studio Pro includes MPEG-encoding software that taps into QuickTime, but if

you want maximum control over MPEG encoding, investigate Discreet's \$499 MPEG Charger (800/869-3504, www.discreet.com), an add-on for the company's popular Cleaner 5 compression utility. MPEG Charger lets you apply Cleaner's numerous talents—high-quality video and audio filters, cropping, and so on—to MPEG encoding.

MPEG Charger also supports *variable bit-rate* (VBR) encoding, a more sophisticated encoding technique that can deliver higher-quality video, particularly with long video segments. Discreet also sells the \$999 MPEG SuperCharger, a PCI expansion card that works with Cleaner 5 to provide accelerated MPEG encoding.

And finally, if you're serious about taking the plunge into professional DVD authoring, I recommend the excellent tutorial DVD 101, from Infinite Solutions (\$49; 503/574-4433, www.infsol.com). This guide walks you through each phase of the DVD-production process, and although it's not specific to any particular program or platform, it will give you a solid foundation for your own research.

ing and burning a DVD, avoid running complex programs that put a lot of demands on your system. Also consider turning off file sharing. Overburdening your Mac during the burning phase might cause the much dreaded *buffer underrun* error—when that happens, your Mac isn't able to supply data fast enough for the SuperDrive, and you're left with a disc that's nothing more than an expensive coaster.

And remember that although iDVD begins encoding your DVD in the background while you work on your project, the unfinished part will still have to be encoded before burning—so your system can use all the power it can get.

Burn to DVD-RW Apple doesn't publicize the fact, but the Pioneer SuperDrive can also burn to the rewritable DVD format known as DVD-RW. A DVD-RW disc costs a few dollars more than a DVD-R, but as with a CD-RW, you can erase and reuse it about 1,000 times.

DVD-RW media can be great for testing your project before committing it to a write-once DVD-R disc—but you have to trick iDVD to use it. Double-click on the Burn button as you normally would, and insert a blank DVD-R when iDVD tells you to. When you see iDVD's Preparing status message, press your keyboard's eject key and replace the DVD-R with a new or erased DVD-RW (you can use OS X's Disk Utility program to erase DVD-RWs). iDVD will then burn as normal.

The DVD player in your living room may not be so accommodating; currently, relatively few consumer DVD players can play DVD-RW discs. So if you plan on testing your DVDs—or even producing DVDs that you'll present once and then erase—make sure you have compatible players. When shopping for a new DVD player, do some tests at what DVD developers jokingly call "Circuit City labs": take a burned DVD-RW disc to your local electronics megastore

and—with permission—test it in a variety of players.

Even if you don't have a DVD player that can read DVD-RWs, it can still be quite useful to proof your DVD on your Mac, since you will see everything in its final, compressed form—which is much more accurate than iDVD's Preview mode. The only Mac drives currently capable of playing DVD-RW discs are SuperDrives and the DVD-ROM drive that's available in the new (white) iBooks.

Archive Your Project Once you've burned a DVD, you might want to delete its source assets from your hard drive to free up disk space. If you have a high-capacity backup device—a tape drive or external FireWire hard drive, for example—copy your DVD's assets before deleting them, so you can revise the DVD later if you like. (It's at this point that you'll be glad you stashed your assets in one folder.)

If you start to run low on disk space, you can reclaim a few gigabytes without having to delete a project's assets. In iDVD's Preferences dialog box, select the Delete Rendered Files After Closing A Project option. When you quit iDVD or open a different project, iDVD deletes the MPEG-2 movie and AC-3 audio files that it created from your original videos. But keep in mind that if you want to burn another copy of the disc, iDVD will have to encode everything again.

Though you can use iDVD to burn multiple copies of a DVD, you'll probably discover that the job is easier with Roxio's Toast 5 Titanium (\$100; www.rosx.com, *Reviews*, July 2001), which has disc-duplication features. Insert the DVD you burned and then copy its Video_TS folder to your hard drive; you can burn additional copies of the disc simply by dragging this folder into Toast. Since copy-protection schemes such as Content Scrambling System and Macrovision can be added only by a commercial replication com-

pany—DVD Studio Pro lets you set a Content Scrambling System flag that tells the replicator to add it—you'll have no problem making a few extra copies for a client.

If you need to have more than a few copies of a disc—for example, 2,000 training DVDs for a large company—you'll want to work with a replicator. Most replicators will now accept a burned DVD-R as a master, as well as the more traditional digital linear tape (DLT). Prices vary widely and, as you might expect, go down as the quantity you order goes up. For a run of about 2,000 discs, expect to pay a few dollars per DVD, a price that generally includes printing on the DVD from artwork that you supply.

The Last Word

When you're designing a DVD, keep in mind that you're creating a user interface. Don't give your viewers motion sickness—avoid the temptation to cram the DVD's menus with so much motion that viewers have trouble navigating. And if you don't have a lot of faith in your design skills, you should stick with iDVD's built-in themes.

That's the beauty of iDVD 2: it enables DVD-authoring neophytes and nondesigners to create attractive discs, and at the same time, it provides enough design flexibility to allow professionals to customize a DVD's look. Whether you're trying to promote your business, enlighten your employees, or become the Steven Spielberg of the wedding circuit, iDVD 2 puts you in the director's chair for one of today's hottest consumer electronics technologies. **m**



Contributing Editor JIM HEID (www.jimheid.com) specializes in digital-media technologies and writes the weekly, nationally syndicated *Mac Focus* column for the *Los Angeles Times*.



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Flash Animation with FreeHand

BY ANDREW SHALAT

Building and animating movies in Macromedia Flash 5 (800/457-1774, www.macromedia.com) can be a tedious and confusing process, even for professional designers. Luckily, you don't need to know how to use Flash—and you don't even need the program installed on your computer—to make a Flash animation. All you need is Macromedia's drawing program, FreeHand 10.

FreeHand 10's enhanced integration with Flash 5 lets you easily create, test, and export movies in the Flash (SWF) file format, all from the comfort of a familiar drawing program—and often in less time than you'd spend creating the same animation from scratch in Flash 5.

FreeHand 10 also lets you add limited scripting and interactivity to your movie. For example, you can assign actions to buttons that play or stop movies, link to other sites, or even link to other parts of the same movie.

Of course, animating in FreeHand 10 is not a complete replacement for Flash itself. FreeHand's scripting tools are nowhere near as powerful as Flash 5's, and FreeHand offers no way of adding sound. However, if you're already familiar with Flash, setting up animations in FreeHand can be a great time-saver, helping you avoid the tedious process of meticulously creating symbols and layers in Flash. Instead, those elements are created automatically when you export your design from FreeHand.

Here's a guide to getting started with FreeHand's animation tools. You'll learn how to animate text and objects, and then how to add simple interactivity. When you're done, you'll have a finished SWF file ready for posting on the Web or importing into Flash for further refinement and advanced scripting. **m**

ANDREW SHALAT (web@shalat.com) is a graphic artist and the founder of Shalat Design. He's worked with FreeHand since version 1.2.



This SWF movie—produced entirely in FreeHand 10—incorporates several types of layer animation and a hyperlinked button.

More Info: www.macworld.com/2002/03/howto/Flash.html

You can view this how-to project's finished animation at Macworld.com.

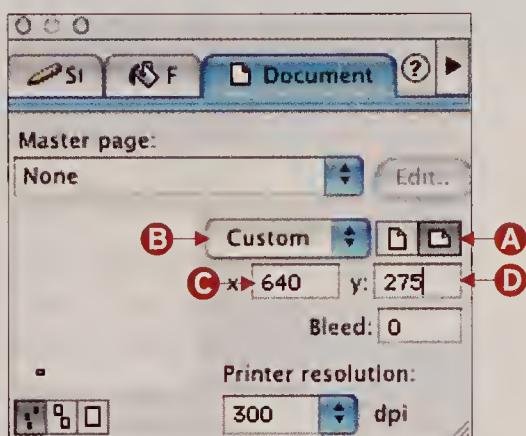
1

Set Up Your Movie Before you start designing your animation, you need to define your document's settings and prepare your movie's background elements.

2

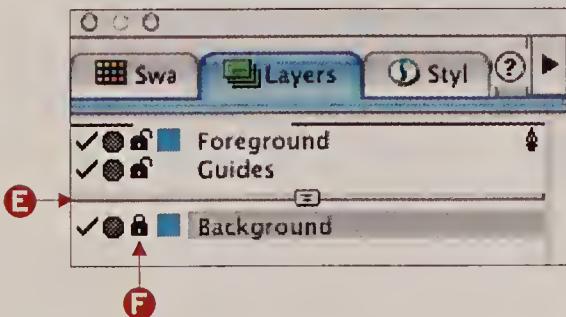
Animate Your Text By turning your text into a layer-based animation, you can give viewers the illusion that your text message is being typed on the page one letter at a time. This process makes each layer a separate frame of the animation.

In a new FreeHand document, define your movie's dimensions by opening the Document inspector (Window: Inspectors: Document). To ensure that your movie will fit into most browser windows—taking into account the extra space occupied by a browser's menus, scroll bars, and borders—set your document to a wide-screen format of 640 by 275 pixels.



In the Document inspector, select landscape orientation **A**. From the page-size pull-down menu **B**, select Custom. Enter **640** in the X field **C** and **275** in the Y field **D**.

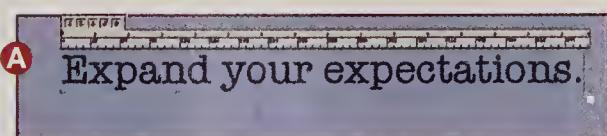
Next, create your movie's background. You can put anything on the background layers—be it a JPEG, a GIF, or vector art. As long as these layers are below the divider **E** in the Layers panel (Window: Panels: Layers), their content will show through every frame of the animation. It's a good idea, therefore, to keep the background simple. In this example, I've chosen a basic blue rectangle.



Once you've finished your background's design, be sure to lock the background layers **F** so you won't accidentally alter them later.

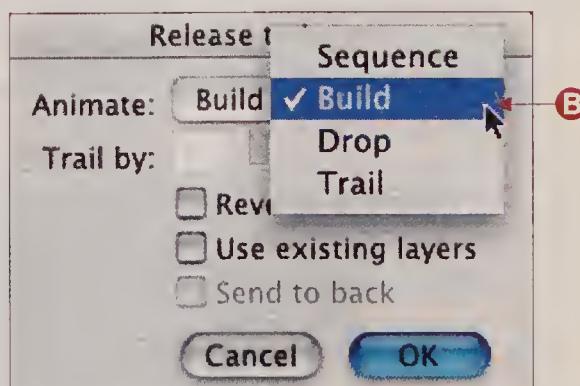
First select the Foreground layer in the Layers panel and rename it something descriptive, such as **Typewriter_text**. This layer will be the first frame of your animation and will serve as a valuable reference point if you need to make changes later.

Using the Text tool, type your full message into the document window **A**.



Because you'll use this text again in step 3, save a copy of it as a symbol (Modify: Symbol: Copy To Symbol). Unlike the Convert To Symbol command, this makes only a *copy* of the object into a symbol; it does not change the object on your page into one.

Next, distribute each letter to its own layer. Open the Xtras menu and choose Release To Layers from the Animate submenu. In the resulting dialog box, choose Build from the Animate pull-down menu **B**. This will create an animation that is cumulative, each layer building upon the last. Click on OK.



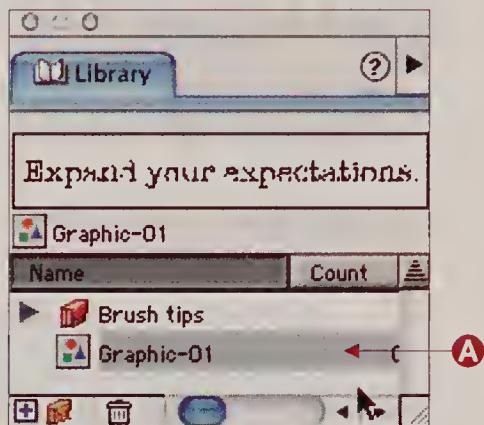
Now you'll see the new layers on your Layers panel. Before you move on, lock all of the layers—including the topmost one—to avoid accidentally altering your animation.

continues

3

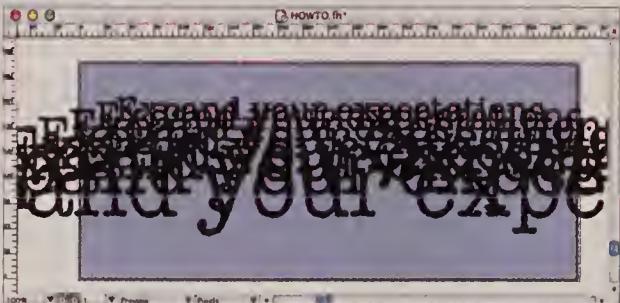
Add Motion to Your Text You can also put your text into motion. Words can expand, shrink, or float to a new position. In this example, the full text message will grow until it fills the screen, creating the illusion that the words are flying toward the viewer.

Open the Layers panel's Options menu and select New Layer. Rename the layer **Big_Text**.



Open the Library from the Windows menu. With the **Big_Text** layer selected, drag the symbol you created in step 2 from the Library **A** and position it directly over the text on the previous layer. Make a copy of the **Big_Text** layer by selecting **Duplicate** from the Layers panel's Options menu. Lock the previous layer.

Select the symbol in the document window. While holding down the option key, use the Scale tool to make the symbol slightly larger. Choose **Duplicate** from the **Edit** menu (⌘-option-D). This replicates the text as well as its scaling factor. Repeat the **Duplicate** command as many times as necessary until your text reaches the desired size.



When you've created all the text iterations, select all of the objects in this layer (**Edit: Select All**) and choose **Group** from the **Modify** menu. Use the **Release To Layers** command again to distribute them to individual layers.

4

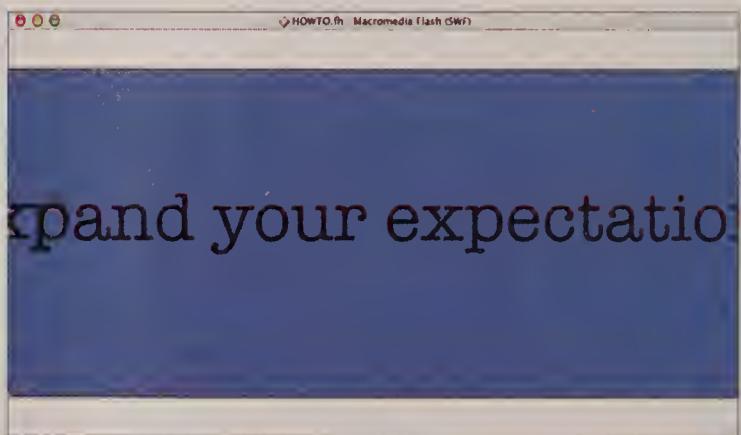
Test Your Movie As you build the animation, you may want to check your progress. The Controller gives you frame-by-frame control over a preview of the movie. Testing the movie after each animation step will facilitate any troubleshooting you may need to do.

To test your animation, open the Controller toolbar (Window: Toolbars: Controller). This toolbar offers controls for stepping forward and backward through your movie.



Click on the **Test Movie** button **A** to play your animation. (You can also access this function by choosing **Test Movie** from the **Command** menu or simply pressing ⌘-return .)

A new window will appear on screen and quickly loop through the set of frames you've just made. Click on the **Stop** button **B** to pause playback. To return to the first frame, click on the **Rewind** button **C**. You can move through your animation manually, frame by frame, by repeatedly clicking on the **Step Forward** button **D**. This should give you an idea of what your finished movie will look like.



To return to your document window, simply close the animation window.

5

Use Blends to Animate Creating each frame of an animation by hand can be tedious. Luckily, if you need to animate a simple object—one that contains fewer than 500 points—you can automate the process by using the Blend option.

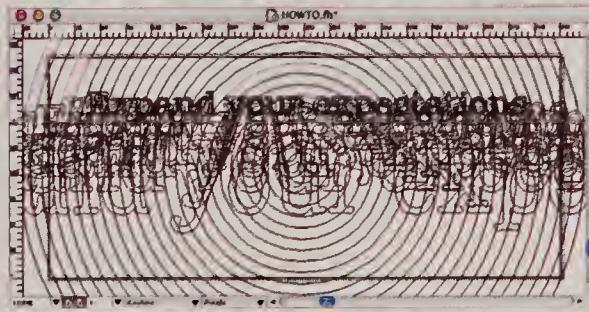
Make sure all of the previous layers are locked. On a new layer, draw a small circle in the center of the page and give it a fill color **A**.



Tip: You may want to turn off the visibility of the previous layers if their contents become too confusing. But remember to turn the visibility back on before exporting the animation as a Flash SWF file. Any layers not visible in the FreeHand document won't be visible in the final animation.

With the small circle selected, open the Edit menu and choose Clone (⌘-shift-D). Now enlarge the cloned circle to cover the entire page. To view the page elements beneath the top object, change your view to Keyline (⌘-K).

Choose Select All from the Edit menu to select both circles on screen and apply the Blend command (Modify: Combine: Blend). FreeHand will automatically create intermediate layers of the two circles.



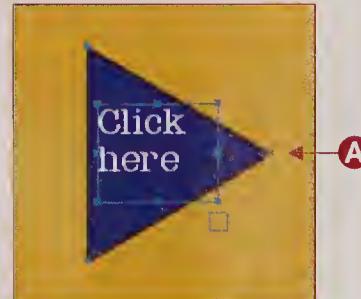
Again, choose Select All from the Edit menu and then Release To Layers. In the Release To Layers dialog box, choose Sequence from the Animate pull-down menu, so that only one layer in the animation will appear at a time. Click on OK. Test your movie.

6

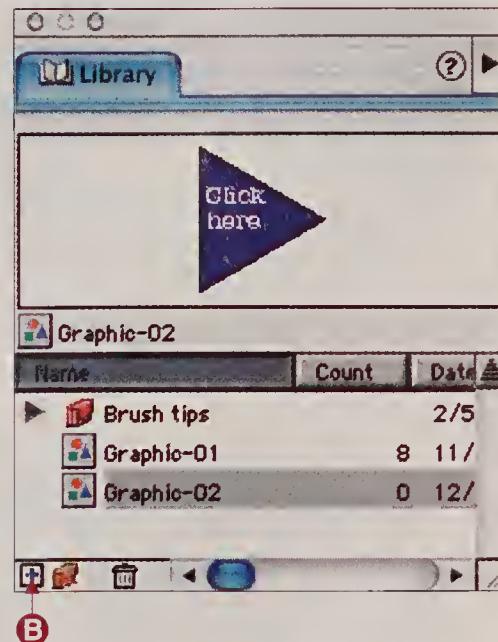
Design a Button Interactivity is one of the most powerful features of a Flash movie, and one way to add interactivity is with buttons. For example, you can create a button that sends the viewer to another Web page.

Once again lock all layers except the topmost one. Rename the top layer **Button**.

Design your button in the document window. You can use any shape you want for the button, but make sure it contains a solid field of color. This will ensure that the button has an adequate *hit field*, an area upon which the viewer's cursor can rest **A**.



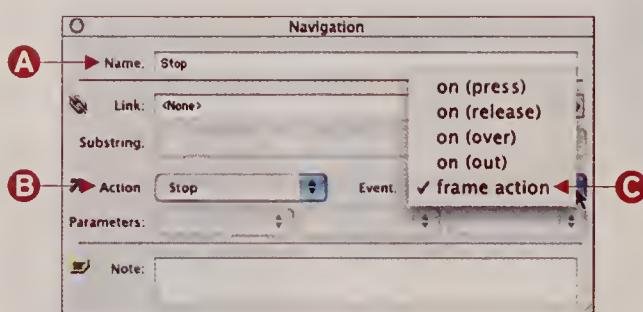
If you plan to use the shape again for another button, save it as a symbol by clicking on the Add button **B** in the Library.



continues

7

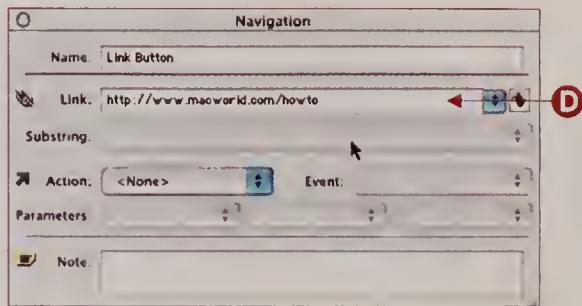
Add Action to Your Button Although its scripting tools are less powerful than those available in Flash 5, FreeHand offers several easy but effective ways to control your movie and interact with viewers. You can access these from the Properties panel.



In the Name field A, enter an appropriate name for this action, such as **Stop**. Choose Stop from the Action pull-down menu B. Then click on the Event pull-down menu C and choose Frame Action. When the movie hits this frame, it will stop.

You can now assign an action to your button. For this exercise, you'll want the movie to send viewers to another Web page.

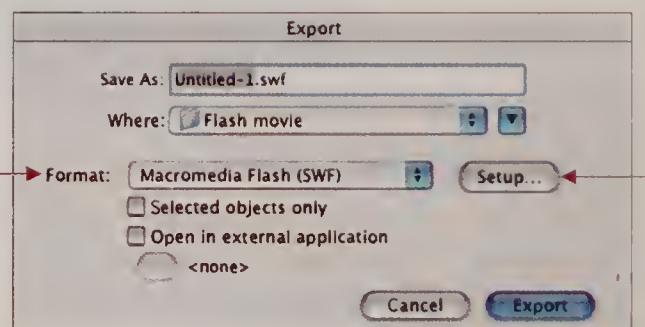
Select the button graphic in the document window. In the Navigation panel, give this action a name such as **Link Button**. In the Link field D, type the full URL, making sure to include **http://**.



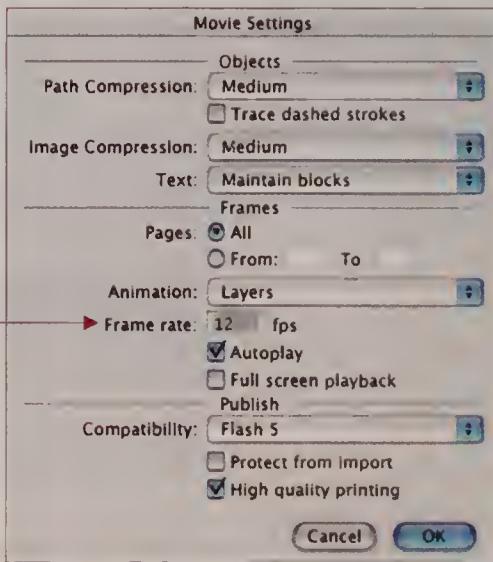
Note: Be careful not to move an object to another layer once you've applied an action to it. Actions are assigned to the object—not to a layer. So if you move an object from the top layer to the bottom, the action will follow it.

8

Export Your Movie The final step in making any FreeHand animation is to export it to the correct format. As you do so, you can make several important choices about the form your animation will take.



In the Movie Settings dialog box, you can set the speed of your movie by adjusting the Frame Rate setting C. The default speed for a Flash movie is 12 frames per second (fps). For faster—therefore smoother—playback, try changing this setting to 15 fps. This rate looks good in most browsers. Keep in mind that anything slower than 12 fps will likely appear jumpy, while 24 fps may be too fast for the user's computer to process correctly.



When you're done, click on OK and then on Export. You now have a file that you can publish to the Web or import into Flash for further refinement.

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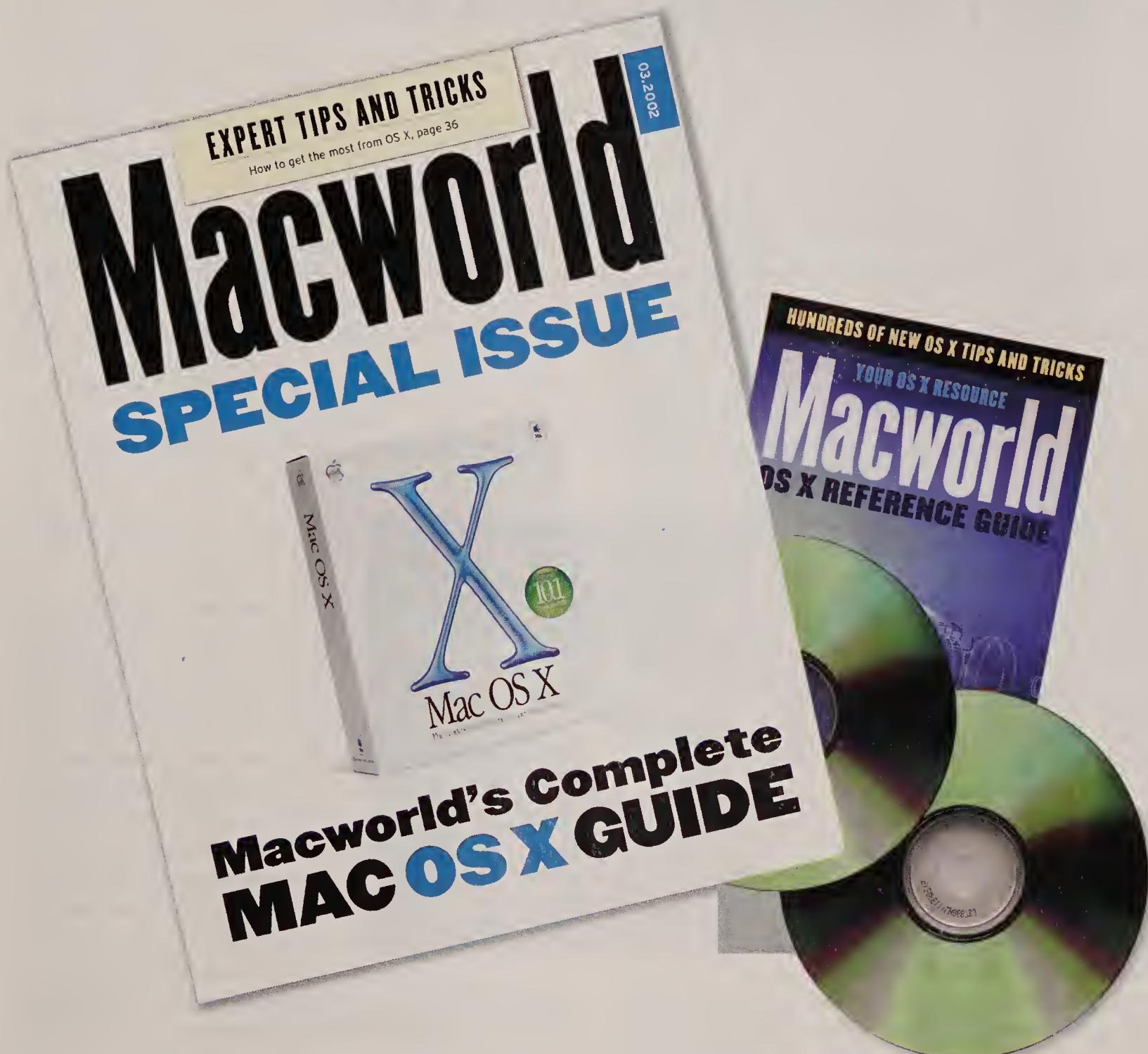
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In a PDF workflow, designers send PDF (Portable Document Format) files, rather than files from applications such as QuarkXPress and Adobe Photoshop, to service bureaus and printers. A PDF workflow can reduce costs and error rates, but an improperly prepared PDF can cause problems. A subset of PDF—PDF/X—can make PDF workflows work. I will help you decide whether PDF/X is right for you.

Flexibility versus Reliability

One big problem with sending application files to a service bureau is that they're too flexible. Anyone can open a native file and change text, colors, layout, and so on, with potentially disastrous results. If you're accustomed to your service provider taking care of the myriad details of a smooth print job, you may think this flexibility is an advantage; however, it can make files less reliable. Typically, native files don't contain all the elements that are necessary to print the job: ICC profiles may be absent, graphics may be linked rather than embedded, trapping data is optional, and such files can't contain embedded fonts at all. When a service bureau's preflighting check shows that fonts are missing or that graphics are in RGB instead of CMYK, your job is delayed and processing fees mount until the problems are resolved.

Lock Down the File Format A designer can prevent these problems by making sure that files are inflexible and problem-free before sending them off to the printer. In the old days, many people sent hard-to-alter raw PostScript files, which the service provider simply downloaded to an imagesetter, leaving little opportunity for error. A modern-day equivalent, TIFF/IT, works well for digital delivery of ads but not for multipage jobs.

As originally conceived by Adobe in 1993, PDF may not be an obvious candidate for inflexible, reliable file delivery. Through all PDF's revisions, its main feature has been media agility: a PDF file can tailor itself to produce the best possible results on a monitor or PostScript out-



put device. This flexibility makes PDF ill-suited to a smooth pre-press workflow.

However, abandoning a PDF workflow is not necessary. Instead, prepress providers are rallying around a group of standards known collectively as PDF/X—a very focused subset of plain old PDF. PDF/X isn't fundamentally different from PDF, and it doesn't offer more capabilities; to the contrary, PDF/X prevents some choices—for example, the use of RGB graphics and the omission of

fonts, bleed areas, and trapping data—that would hamper your prepress workflow.

PDF/X Standard Flavors

There are several flavors of PDF/X. The three main variants—PDF/X-1, PDF/X-2, and PDF/X-3—share important properties. They pack every element necessary to run a job into a single file, and they include a certification scheme that guarantees a PDF/X file's smooth trip through production.

The Original: PDF/X-1 The first PDF/X standard was PDF/X-1. In its inception, PDF/X was a North American standard only, developed by the Committee for Graphic Arts Technical Standards (CGATS) in conjunction with the American National Standards Institute (ANSI). Now, however, it's a full-blown, international standard, certified by the International Standards Organization (ISO).

PDF/X-1 has given rise to three subsets; the one that you're most likely to encounter (in the United States) is PDF/X-1a. It differs from the original PDF/X-1 only in

that the older standard permitted embedded raster graphics in TIFF, TIFF/IT, EPS, or DCS format, while PDF/X-1a requires that all graphics be encoded in native PDF format. All three PDF/X-1 variants are designed to facilitate blind transfers, in which the file contains everything the service bureau needs to produce the job.

The Looser Version: PDF/X-2 Unlike PDF/X-1, PDF/X-2 is not for blind transfers. Instead, it's for situations in which there's more communication between the originator and the producer. PDF/X-2 lets you leave out fonts that are available at the production end and embed low-resolution image files that will be swapped out for high-resolution versions during production. Some large publishers use this variation for in-house workflows, but PDF/X-2 hasn't garnered nearly as much support as PDF/X-1, and you're unlikely to encounter it elsewhere.

The Continental: PDF/X-3 More popular in Europe than in the United States, PDF/X-3 was developed by the European Color Initiative (ECI) to accommodate Lab-based workflows (common in Europe but rarer than hen's teeth here in the States). Aside from support for Lab and other device-independent color spaces, PDF/X-3's aims and functionality are very similar to those of PDF/X-1.

Save a Printer Time, Save Yourself Money

All variations on the PDF/X standard require that files be certified as PDF/X by tools such as Enfocus's Instant PDF (\$189; 888/363-6287, www.enfocus.com), Apago's PDF/X CheckUp (\$249; 770/619-1884, www.apago.com), and Callas Software's PDFInspektor2 Gold Edition (\$149; www.callas.de). All three software packages are plug-ins for the full versions of Adobe Acrobat 4.05 and 5.0. They automatically configure Acrobat Distiller with settings based on various international standards or with publisher-supplied settings. Once you've created the PDF, the plug-ins preflight the file and generate a preflight report listing any potential problems.

The Apago and Enfocus plug-ins also offer autocorrection of some common problems, such as missing tags and missing or incorrect ICC profiles, but you'll have to fix errors such as missing fonts and RGB images manually.

All three plug-in packages also hook into more-advanced, industrial-strength workflow-automation tools. While PDF/X is an open standard, the workflow information each package provides is proprietary—so if you plan to always work with the same service provider, the process will be much less bumpy if you both use the same system.

Once a PDF/X file is certified, you've done your job, and the resulting file should sail smoothly through any service provider's PDF workflow.

Given the work you must do to produce a certified PDF/X file that prints without preflighting or troubleshooting, it's not unreasonable to ask a printer or service provider for a price break. You may have to push a little to get a deal, but PDF/X means more work and more responsibility for document originators and an easier time for produc-

Work toward a PDF Workflow

A PDF workflow can save you money and headaches, but it's not something to leap into blindly. If producing certified, preflighted PDF/X sounds appealing to you, take the following steps.

- 1 Educate yourself. For more details on the complexities of PDF/X, explore the Web sites www.planetpdf.com (which covers all aspects of PDF) and www.ddap.org (run by the Digital Distribution of Advertising for Publications Association, it focuses on prepress topics).
- 2 Ask your service provider for help. Many PDF-creation tools allow commercial printers to create their own ideal settings for Adobe Acrobat Distiller and distribute them to clients.
- 3 Get a preflighting tool to certify your results. Several companies, including Apago, Enfocus, and Callas Software, sell Adobe Acrobat plug-ins that certify PDF/X and even fix many problems that would otherwise make the certification fail.
- 4 Before you distill a PDF file from your design application, make sure that all fonts are available and all color is CMYK, gray-scale, or spot color. Accurately specify page sizes, bleeds, and trim areas. (For those of you who remember delivering raw PostScript files to service bureaus, the same basic rules apply.)

ers, so push. If service providers want to receive preflighted, certified PDF/X, they should provide an incentive.

Is PDF/X for You?

Precisely because PDF/X shifts a great deal of responsibility from the back end to the front end of the production process, it's not a practical solution for all designers. If you always send the correct fonts with a job, include all high-resolution graphics, convert all colors to CMYK, specify correctly all bleeds, and so forth, transitioning to PDF/X-based workflows may be a good move. If you prefer to do only the designing and let service providers take care of translating your vision to hard copy, PDF/X is almost certainly not for you, at least at this stage of the game.

In the future, I expect to see PDF/X tools integrated into applications such as QuarkXPress and Adobe Illustrator as an exporting option. Right now, though, PDF/X is still close to the bleeding edge, so be cautious. Work closely with your service provider. And don't think that you can simply run your PostScript print file through Adobe Acrobat Distiller and send off the results. **m**

Contributing Editor BRUCE FRASER is a coauthor of *Real World Photoshop 6* (Peachpit Press, 2001). He also laid out each of its 814 pages. The job went smoothly.

Web Publishing Secrets

Consistency is the hallmark of a great Web site, and you can use Macromedia Dreamweaver's Template feature to create visual and functional consistency in your sites. Even better, this powerful tool can make updating your sites quick and painless. Though some designers shy away from it because of its sometimes bizarre behavior, you can learn to take advantage of the Template feature.

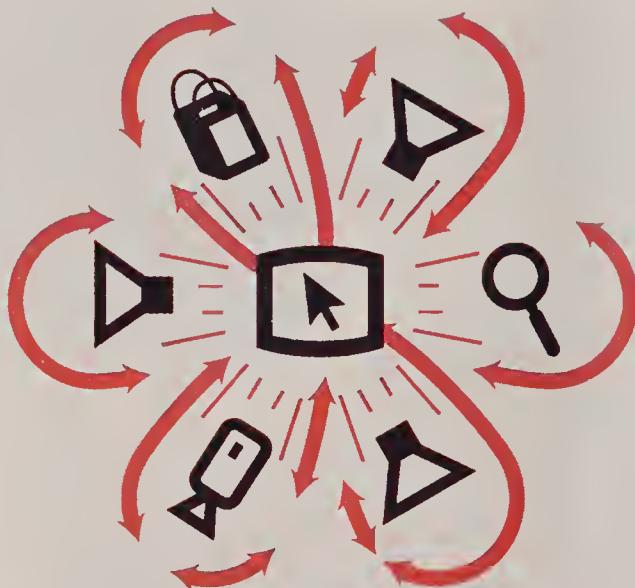
Template Basics

The Template feature in Macromedia Dreamweaver 4 (\$299; 800/457-1774, www.macromedia.com) lets you create multiple Web pages that have identical elements (for example, layouts, banners, and navigation bars) but also contain custom content.

Pages created from a template remain linked to the original template file. (See "Easy Updates with Dreamweaver," *Create*, July 2000, for a version 3 primer.) So if you modify a template—by changing the banner, for example—you can use Dreamweaver to instantly apply that change to every page created from the template. This site-management feature can save you a lot of time. Just imagine how much work it would take to redesign by hand every page in your company's catalog of 100 products. Instead, you can redesign the template and let Dreamweaver do the work for you.

First Steps Making a template is easy, but since templates depend on Dreamweaver's site-management features, you must first define your site (Site: New Site). Next, design a Web page and save it as a template (File: Save As Template). Then define the template's *editable regions*, areas that can be modified in the pages created from that template. This is where you'll put each page's unique content, such as body text or product photos. To make an editable region, select some HTML (for example, a paragraph or a table cell) and choose Modify: Templates: New Editable Region. Dreamweaver will ask you to give each region a name.

Once you've finished your template, making pages from it is a snap. Choose New From Template from the File menu



(or from the Assets panel) and select the template you wish to use. Drop custom content into the editable regions, and you're done.

A page created this way is just another Web page; you can save it anywhere in your site. Dreamweaver uses its site-management features to automatically update links and paths to graphics files.

Avoid Easy Errors

Making and using a template sounds simple enough, right? But many people quickly run into trouble, especially when it comes to defining and using editable and noneditable regions correctly.

Here's a common scenario: You've created a page from a template and are ready to enter custom content. You select an editable region, type a paragraph of text, and hit the return key. But instead of making a new paragraph, Dreamweaver beeps nastily and refuses to add one.

To fix this problem, you need to understand the way Dreamweaver *creates* editable regions. Behind the scenes, the program inserts a pair of HTML comment tags into the template's code; these tags let you alter the HTML between them. For example:

```
<td>
<!-- #BeginEditable "content" -->
<p>&nbsp;</p>
<!-- #EndEditable -->
</td>
```

Here, the content inside the set of `td` (table data) tags is editable; the first HTML comment marks the beginning of the editable region—`#BeginEditable`. Since templates



Inside a Template Dreamweaver places a blue box around the editable regions of a template **A**. (Choose View: Head Content to see this part of the document window.) Usually, the program forbids you to add metatags and other content to the head of a template-based page, but you can work around this problem via Dreamweaver's Code view. Here you can also see Dreamweaver's Tag Selector—located in the lower left corner of the document **B**. Avoid mistakes in your templates by using this tool to *accurately* select HTML tags.

can contain multiple editable regions, Dreamweaver also requires that you give the region a name—in this case, “content.” Everything inside this particular table cell—represented by the `td` tag—can be changed, but the cell itself—including properties such as the cell’s background color—can be changed only in the original template file.

Unfortunately, you must select some HTML in your template before you define it as an editable region, and it’s easy to select *too little* and end up with HTML like this:

```
<td>
<p><!-- #BeginEditable "content" -->
Editable content.
<!-- #EndEditable -->
</p>
</td>
```

In this case, everything between the `p` (paragraph) tags is editable, but the `p` tag itself is not. That means you can’t change that paragraph to a heading or bulleted list. You can’t even add additional paragraphs! Your attempt is the source of Dreamweaver’s complaining.

To avoid this dilemma, make sure you select the entire `p` tag before you create the editable region. That way, you’ll be able to add additional paragraphs or even edit the paragraph itself. (You can turn it into a heading or bulleted list, for example.) The best way to do this is to use Dreamweaver’s Tag Selector instead of dragging your mouse across the area you want (see “Inside a Template”). By the same token, select a cell’s `td` tag *before* creating an editable region if you want all content within that table cell to be editable.

Erase Layer Frustrations

If you use layers on your pages, you probably gave up on templates long ago, because you can’t use Dreamweaver’s

Layers tool, located on the Objects panel, to add layers to a template-based page. If you try to draw a layer within an editable region, Dreamweaver beeps and refuses to obey—without even telling you why.

This bizarre behavior has to do with where Dreamweaver attempts to put the layer’s HTML code. A layer, unlike any other object you insert into a Web page, exists in two places: as code somewhere in the flow of the page’s HTML, and as an object in a specific location in the Web browser window. In fact, that’s the main benefit of a layer—you can make it appear at a precise location on a Web page (and even be animated around the page) without worrying about where the code falls in the flow of the page’s HTML.

Dreamweaver’s Layers tool tries to place layer code—which is actually a mixture of HTML and Cascading Style Sheets (CSS) information—directly after the opening `body` tag at the top of a page. But Dreamweaver forbids editable regions in this area, so any attempt to add code there is met with a negative beep.

One obvious workaround for this poses problems for cross-browser compatibility. You *can* add a layer by clicking inside an editable region and choosing Insert: Layer. Dreamweaver adds the layer code wherever you clicked. You can then edit the layer—and even drag it over a noneditable region. (The code stays put, but you can move the layer.)

However, if you, like most Web designers, use HTML tables to assure consistent page layouts between platforms and Web browsers, this approach can cause problems. Netscape 4 doesn’t correctly display a layer that has its code in a table; the layer will appear in the wrong location.

There’s a simple way to get around this. Add an empty paragraph at the bottom of the original template file—after any other content and below any tables you’ve created. Turn this paragraph into an editable region. When you want to add a layer to a page based on a template, just click inside this editable region and choose Insert: Layer. Since layers can display anywhere on the page no matter where their code is located, you can drag the layer to any spot on the Web page and edit however you want.

Cure Common Headaches

Dreamweaver also has trouble putting code in other parts of template-based pages. Lots of useful information gets embedded in the head of a Web page—internal style sheets, metatags, and your own JavaScript programs, for instance. Unfortunately, when you use templates, the title is the only editable region in the head of a page; Dreamweaver doesn’t provide any straightforward way to create more editable regions.

Because you can’t add custom HTML to the head, you can’t make common enhancements to pages built from templates. For example, to make your Web site work well with search engines, it’s common to add metatags, such as keywords and descriptions, to your *continues*

pages. Most search engines use keywords to index pages, and descriptions to provide a brief synopsis of a page's content. Each page should have its own keywords and description because each page is unique.

To make things more confusing, Dreamweaver is inconsistent in how it enforces this rule. You *can* add a Dreamweaver Behavior—such as a simple rollover effect—to a template-based page, even though doing so adds code to the head of the page. And oddly, while you can't add a CSS style directly to a template-based page, you *can* link it to an external style sheet, and even create a new external style sheet that's linked to the page.

The Workaround This crazy mess is enough to make some designers give up entirely, but there is a workaround—if you don't mind getting your hands dirty in the HTML code.

Switch to the Code view in Dreamweaver (View: Code or View: Code And Design). You'll notice that noneditable HTML is highlighted in yellow when you're in Code view.

Fortunately, one part of the page's head—the document title—is editable. That gives you an opportunity. Dreamweaver won't prevent you from adding code to an editable region, so place your cursor after the closing title tag—*/title*—and press the return key. Now you can add any code you want here, including any of the Head objects available from Dreamweaver's Objects panel.

Try Timesaving Tricks

Once you have access to the head region of your template, you can use many timesaving tricks. For instance, if you plan on adding metatags to most of the pages you create from a particular template, streamline the process by adding blank metatags to the original template file. Use the trick from the previous section to access the template's head, and then add blank keyword and description metatags. (Just make sure they're in the editable region of the page's title.)

Once you do that and create a new page from the template, you'll see a metatag icon in the Head Content bar of the document window (see "Inside a Template"). Click on the icon and edit the tag using the Property Inspector.

JavaScripts in a Jiffy You can even add your own editable regions to the head of a template. For example, say you want to add JavaScript programs to pages based on a template—but you don't want each page to have the *same* programs. Simple.

Just create a new editable region in the template by going into Code view and typing the appropriate comments directly into the head of the page, like this:

```
<!-- #BeginEditable "Custom JavaScript" -->
<script language="JavaScript">
</script>
<!-- #EndEditable -->
```

Faux Template

When it comes to creating hundreds of nearly identical and easily edited pages, the Template feature is Dreamweaver's power tool, but it's not the only way to get things done. Here's another trick that can save time you might otherwise spend typing in the same code again and again.

Change It Up When you create a new page in Dreamweaver (File: New), a blank, white page appears. But what if you don't want a white page? Perhaps you'd like all new pages you create to have a beige background. Maybe you build pages in Japanese, with an alphabet other than Dreamweaver's default Latin setting; you're tired of having to change the document encoding to the correct alphabet each time you create a new page. You might even want each new page to have a document type definition to correctly validate a page's HTML (see "Web Publishing Secrets," *How-to*, September 2001).

You can edit Dreamweaver's default new-document page so that every new page starts off with the HTML of your choosing. To accomplish this, open the file called Default.html, which you'll find in the Templates folder of Dreamweaver's Configuration folder. You can edit this file using Dreamweaver, but it's a good idea to make a backup of the file first, so you can go back to the original if you make a mistake.

The Limitations Keep in mind that when you create a new, blank page, Dreamweaver is just making a copy of the Default.html file. This file isn't part of Dreamweaver's Template feature and isn't "linked" to the original Default.html page, so you won't be able to automatically update pages by changing the original Default.html page. In addition, since this file is kept within Dreamweaver's folder (and not your Web-site folder), avoid links and graphics in this file. They won't work when you save them to your site.

This trick is best used when you want to alter the basic foundation of all the pages you make: the document type definition or any of the page-specific properties accessible from the Page Properties item in the Modify menu.

When you create a new page based on this template, you just add your script between the script tags.

With these tips in hand, you're ready to create visually consistent (and easily maintained) Web sites. Dreamweaver's templates may seem confusing at first—but rest assured, they're worth the effort. Once you've got the hang of them, you'll never look back. **m**

DAVID SAWYER MCFARLAND is the president of Sawyer McFarland Media (www.sawmac.com) and the author of *Dreamweaver 4: The Missing Manual* (Pogue Press/O'Reilly, 2001).

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Mac OS X Secrets

You've probably discovered that OS X is missing some of the file-sharing flexibility OS 9 gave you. For instance, you can't easily share any folder you want or set access privileges for a specific group of users. But if you're not afraid to go beyond the Aqua interface, you can restore those powers with help from OS X's built-in NetInfo database and SharePoint, a handy shareware tool.

What's NetInfo?

NetInfo is a powerful database that keeps track of various preferences, access privileges, and other administrative information that's needed to run your Mac. Among other things, NetInfo knows which folders belong to individual users, as well as the access privileges associated with each user and folder. Mac OS X Server relies heavily on NetInfo to establish users, access privileges, and the server's interaction with other computers and networks.

Though working with NetInfo is straightforward, you must be extremely careful when modifying it, because it controls much of your Mac's functionality. You should do a full backup of your Mac before you do anything else. If you can, work on a Mac that you don't use daily, just in case something goes wrong.

You'll use the NetInfo Manager utility (Applications: Utilities: NetInfo Manager) to modify the directories of administrative information in NetInfo. Upon opening this utility, you'll see that the directories are organized hierarchically, from general information, such as configuration, groups, and machines, to specific, such as folder names, paths, and access levels (see "At the Controls").

Share More Folders

In the classic Mac OS, you could share any folder on your hard disk with the greatest of ease; in OS X (as installed), though, each user can share only a single public folder. But Michael Horn's shareware application, SharePoint (http://homepage.mac.com/mhorn), gives you back the ability to



share additional folders not associated with a particular user, and it allows you to store those folders where you want. The process is almost as easy as it was in OS 9, since SharePoint has a graphical user interface and makes the changes to NetInfo for you. SharePoint comes with minimal documentation; here's how you can use it to create shared folders.

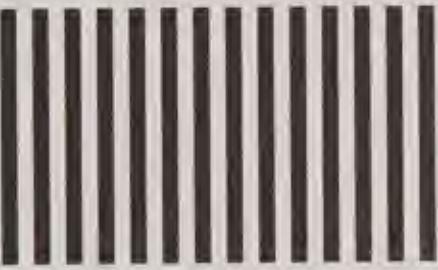
To get started, download SharePoint, copy the application to your Applications folder, and launch it. (You don't need to take extreme precautions when

working with SharePoint as you do when working in NetInfo Manager.) Click on the lock in the main SharePoint window to enter your administrator password. In the Share Name field, type a name for your new *sharepoint* (the folder you're going to share)—this is the name that will appear when users log on to your Mac. To choose a shared folder, either type the full path to the folder in the Directory field or click on Browse to locate the folder you want to share. To use a folder that isn't on your start-up disk, type */Volumes/disk name/path* in the Directory field. Then click on Create New Share. The name and path to your new sharepoint will appear in the SharePoint window. (To create another sharepoint, type over the information you've just entered and click on Create New Share.)

Now it's time to set privileges for your new sharepoint. Click on the Show File System Properties button and select permissions for the owner, group, and guests, just as you would in OS 9. To apply your changes, click on Restart

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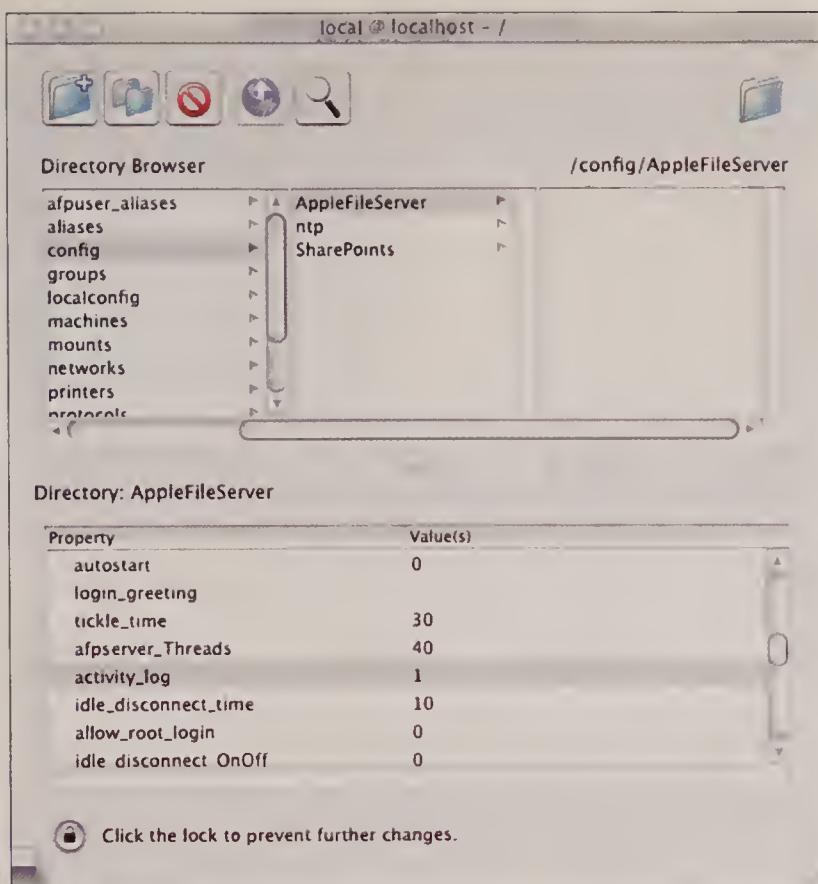
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At the Controls NetInfo Manager displays a variety of Mac OS X preferences and settings, using hierarchical directories.

AppleFileServer. SharePoint stops and then reactivates file sharing. When your changes have been applied, the sharing privileges you've set should appear in the SharePoint window. If they don't, make sure you've typed the path name correctly. SharePoint and the underlying NetInfo database won't update permissions for incorrectly configured folders.

Privacy, Please

If you want *less* rather than *more* sharing, you can use SharePoint to disable a user's public folder, making it invisible to anyone who logs on to the Mac. The owner of the public folder will still have full access to it, even when accessing the computer remotely.

In SharePoint, click on the Public Shares tab. Select the user whose public folder you want to disable and click on Disable Selected Public Directory Share, then Restart AppleFileServer.

Group Therapy

Mac OS 9 users could assign users to a group and set folder-access privileges for all members of a group at the same time. OS X also has groups, but you must use NetInfo to create new ones, and you'll need SharePoint to apply group privileges.

Open NetInfo Manager and enter your administrator password. Click on Groups in the middle pane to view the existing groups. Mac OS X uses many of the groups internally, so you must not modify them. Create a brand-new group by choosing Staff in the right pane and then clicking on the Duplicate Directory button (the double-folder icon). NetInfo Manager will create a group called

Staff Copy. In the lower pane of the window, double-click on Staff Copy and rename the group.

Next, double-click on the number 20, which is the group's unique identification number. Change the number to 21. Now select the Users item and choose New Value from the Directory menu. NetInfo adds a value and selects it. Type the name of a user with an account on your Mac. Choose New Value again to add another user to the group. When you've added all the users you want, save your changes in NetInfo Manager (File: Save). Notice that the Users property displays a triangle and the names of the group's members. Quit NetInfo Manager, and then stop and restart file sharing.

To apply group privileges, open the SharePoint application and select a shared folder you've already created. Click on the Show File System Properties button and choose your new group from the Group pop-up menu. Now choose an access level from the Group pop-up menu in the Permissions area. Remember to click on Update Share and then on Restart AppleFileServer.

Track File Sharing

Mac OS 9 allowed you to keep track of file-sharing activity on your computer with a log file, making it easy to see how often your shared folders were accessed and by whom. To do the same thing in OS X, go back to NetInfo. Once you've entered your password in NetInfo Manager, click on Config in the middle pane and then on AppleFileServer (if AppleFileServer doesn't appear, turn on File Sharing). In the lower pane, scroll down to the activity_log property. Double-click on the Value(s) field and change the value from 0 (zero) to 1 to start logging file-sharing activity. Save your changes; then stop and restart file sharing. Log on to your Mac remotely to create the log, and then look for the log file in the AppleFile Service Folder (System: Library: Logs: AppleFileService).

Plumbing the Depths of NetInfo

Editing the NetInfo database is not for everyone, but it's a powerful way to customize your Mac, and it provides a glimpse of how OS X is organized. From Apple's point of view, NetInfo is not an end-user tool, and the single significant piece of documentation, "Understanding and Using NetInfo" (ftp://manuals.info.apple.com/Apple_Support_Area/Manuals/software/UnderstandingUsingNetInfo.PDF) approaches it from a server administrator's standpoint. It's still worth a read, though, if you're interested in learning how Mac OS X works and how you can access hidden features. There's also useful information about working with Mac OS X Server. You may also want to spend time examining the properties and values in the database to discover even more opportunities to customize your Mac. **m**

SHELLY BRISBIN is a coauthor of *Mac OS X for Dummies* (Hungry Minds, 2001). She has recently added NetInfo Manager to her OS X Dock, just for fun.

Mac 911

My latest shuffling through the *Mac 911* mailbag reveals that you, dear readers, are in a state of confusion—about new and old operating systems, Macs at home and abroad, and cross-platform “standards.” To help plant your feet more firmly on terra firma, I offer advice on moving contacts from OS X’s Mail to Microsoft Entourage, sharing files across the Web, viewing AVI movies, and more.

Missing Links

Q. How do I insert hyperlinks in an AppleWorks document?

SANJIN SKROBONJA
Kostrena, Croatia

A. Simply enter some text (it can be either a URL or a bit of text that you’ll format as a hyperlink), highlight it, and select Create Link from AppleWorks’ Format menu. From the Create Link submenu, select Internet. When you do so, the New Internet Link window appears. There are two fields in this window. As if you couldn’t guess, I’ll tell you that you should enter the hyperlink text in the Text field and the target URL in the URL field.

So, for example, if I wanted to direct someone to the *Mac 911* area of Macworld.com from my AppleWorks document, I might enter **Mac 911** in the Text field and <http://www.macworld.com/subject/mac911> in the URL field. When the reader of this document clicks on the hyperlink, the Mac’s default browser launches and the *Mac 911* page opens.

This linking business is useful for more than just easily propelling your readers to the Web. Using the same Create Link command, you can create hypertext that links to entries elsewhere in the document or to a completely separate document.

For instance, let’s suppose you’ve created an 87-page FAQ document on the social habits of the common smelt. To make it easy to navigate, place a list of questions at the beginning of the document, and link them to the answers. To create a link, highlight the first word of the first answer, choose Create Link, and select Anchor from



the submenu. In the resulting window, give the link a descriptive name: **Answer 1**, for example. Then go back to the list of questions, highlight the entire first question, choose Create Link, and select Document Link from the submenu. In the resulting window, choose the link you just created (in our example, “Answer 1”) from the Anchor pop-up menu to establish your link.

If you’d rather link to a different document, highlight a bit of text, choose Document Link from the Choose Link submenu, and

click on the Choose button in the New Document Link window. Now navigate to the AppleWorks document you want to link to and click on Open; this links the two documents.

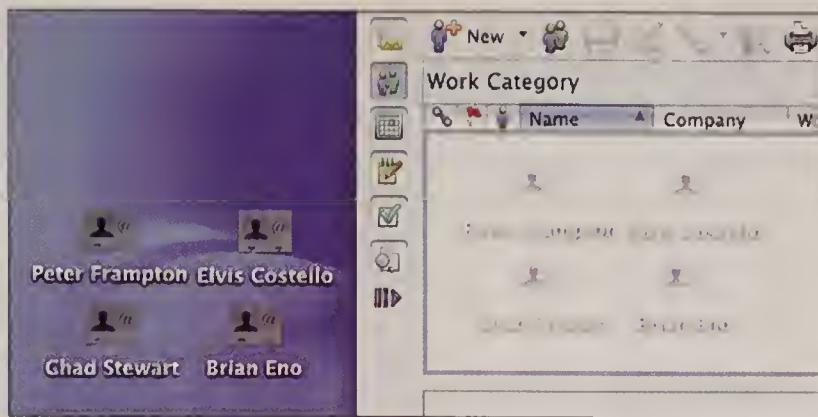
Moving Your Little Black Book

Q. I’ve used OS X’s Mail for a while, but I’m planning to switch to Microsoft Entourage. I know that Mail uses OS X’s Address Book application for its contact information. Before I make the switch, I’d like to know if I can move my contacts from Address Book to Entourage.

JAMES O. CALLAWAY
Chicago, Illinois

A. This is the kind of answer that requires me to bend the rules of spelling (and ask the indulgence of *Macworld*’s eagle-eyed copy editors). That answer is: *Welll . . . yesss.*

There is a way to bring *some* of Address Book’s information into Entourage (not all of it), but the method for doing so is hardly elegant.



Name Dropping It may not be elegant, but it is easy to add your Mail contacts to the OS X version of Entourage. Just drag and drop.

Address Book doesn't have an Export command and doesn't save contact information as tab-delimited text. Other applications—including e-mail clients such as Eudora and Entourage, and contact managers such as Power On Software's Now Contact—can import tab-delimited text files. Given Address Book's serious limitations, one could hardly be blamed for viewing it as the Roach Motel of contact managers—contacts come in, but seemingly they never escape.

Happily, I've discovered that you can move some of the salient information from Address Book to Entourage by dragging your contacts out of Address Book and then dragging them into the upper pane of Entourage's Address Book window (see "Name Dropping"). This process adds your contacts to Entourage.

There's a catch, though. Only some of the information stored in OS X's Address Book appears in Entourage—specifically, names, titles, business names, e-mail addresses, and phone numbers. In my tests, no physical-address information—home and business addresses—made its way to Entourage, nor did any of the information stored in custom fields.

To Server and Obey

Q. I want to make my work available to clients via the Web. I'd like to set up an area on my Mac as an FTP server. Is this difficult to do?

VALERIE WELLS
San Antonio, Texas

A. No, not terribly. In Mac OS 9 and earlier, you need an FTP server application. With OS X, you can simply open the Sharing system preference and click on the Allow FTP Access option.

The problem with the OS X solution is that although other users logging on to your Mac can't download most files on your computer, they can see the names of the files on your Mac—unless you do a certain amount of Terminal twiddling. This could be mighty embarrassing if you have a QuickTime movie titled "Me in My Undies" lounging about on your desktop.

For this reason, I'd suggest that you get a real FTP-server application, and the one that I'd suggest you look

at first is Ben Spink's CrushFTP (www.crushftp.com). This Java-based server allows you to create specific, password-protected directories for individual users or groups, it's remarkably easy to set up, it comes in versions for both OS 9 and earlier and OS X, and it costs a measly \$25.

There are other fine FTP-server applications on the market—including Peter Lewis's \$70 NetPresenz (<http://interarchy.com/netpresenz>) and Maxum's \$249 Rumpus (815/444-0100, www.maxum.com)—but none is as inexpensive as CrushFTP.

But before I sign off on this question, I'd like to ask if you really need an FTP server. You might be better served by posting your work on a Web site hosted somewhere other than your Mac.

There are a couple of advantages to this approach. First of all, your Mac won't get slammed with requests for your files—someone else's hardware will take on that job. Security is another concern. Passwords sent via FTP are transmitted as clear (unencrypted) text, viewable by anyone who intercepts them. As the name implies, secure Web pages are far more secure.

If I were planning to serve only a limited number of files, I'd do so through Apple's iTools (<http://itools.mac.com>). iTools allows you to create and password-protect individual sites (Web pages, really) from your iTools home page.

Forgoing Floppies

Q. I purchased an old copy of Aldus PageMaker 4.2 to open up some ancient projects. Because my Power Mac G4 doesn't have a floppy drive, I can't install the program on my computer. What should I do?

VICTORIA R. SANDERS
Warren, Ohio
continues

Tip of the Month

I've transferred a number of live record albums to my Mac and encoded them as MP3s. When I played these albums with the first iteration of iTunes, the program inserted an audio gap between the tracks, interrupting the flow of the music. With **iTunes 2**, you can eliminate these gaps.

In OS 9 and earlier, select Preferences from iTunes' Edit menu (select Preference from the iTunes menu in OS X), then the Effects tab in the iTunes Preferences window. Click on the Crossfade Playback option and set the slider value to 0 (zero) seconds. From now on there will be no gap between tracks.

WILLIAM BONDE
Middletown, Maryland

A. You can get USB floppy drives for around \$70 from companies like SmartDisk (941/436-2500, www.smartdisk.com) and Imation (651/704-4000, www.imation.com). However, if you have an older Mac with a floppy drive, save yourself some money and use the old Mac in combination with Apple's Disk Copy utility to transfer software to your G4. Here's how:

On the floppy-friendly Mac, launch Disk Copy (found in the Utilities folder) and insert the first floppy. The Save Disk Image As dialog box appears; it contains all the correct settings—Read-Only Compressed and either 1440 K (partition size) or 800 K (partition size). The floppy's name automatically appears in the Name field, tagged with the *.img* suffix.

Just create a new folder and save the disk image to this folder. Repeat this procedure for all the PageMaker floppies, saving the images to the same folder.

When you're finished, transfer that folder full of disk images to your Power Mac G4—with removable media such as a Zip disk or CD-R disc, across a network, or via e-mail. Once you have the images on your G4, select them all and double-click to mount them with Disk Copy. Then just double-click on the image of the first floppy, and the installation should proceed smoothly.

Maddening Movies

Q. I'd like to watch AVI movies on my Mac. Is there a way to do this?

DAVID RODRIGUEZ
Orlando, Florida

A. It depends on the type of AVI (Audio Video Interleave) file you're talking about. You can view some of these files through QuickTime, you can view others with a trick I'll describe below, and still others you may never be able to view at all.

AVI is Microsoft's Video for Windows standard. You can readily identify such files by their *.avi* suffix. Like Apple's QuickTime, AVI supports several data-compression standards. Regrettably, many of these are incompatible with the software you're likely to use for viewing movies—that is, QuickTime.

Those you *can* view with QuickTime require an Indeo codec (compressor/decompressor) from Intel. For your best shot at viewing an Indeo-compressed AVI file, download a handful of Indeo codecs. Go to www.info.apple.com/support/downloads.html and enter Indeo in the Search field to pull up a list of available codecs.

Once you've installed the codecs and restarted your Mac, feel free to voice your disappointment if after you attempt to view the AVI movie, you see this error message: "You may experience problems playing a video track in *whatever.avi* because the required compressor could not be found." A more accurate message might read, "Sorry, chump, folks stopped encoding AVI files with Indeo codecs in the last millennium."

Unsolicited Advice

I realize that the moment a new Apple update hits the Web, many of you are tempted to be the first in the neighborhood to give it a try. After all, who wouldn't want to pack their Mac with the latest version of iMovie, iTunes, or OS X?

Well, me, for one.

You should be aware that in the past several months, Apple has released its fair share of funky updates—including a firmware update that disabled a slew of third-party RAM, and an OS X iTunes 2 installer that erased some people's hard drives.

Why take the chance that you'll be the next victim of an ill-conceived update? To be safe rather than sorry, keep an eye on Mac news sites and our own beloved Macworld forums for a week before installing any new update. If the coast seems clear, update with my blessing.

More often than not these days, AVI files are encoded with some variety of the DivX codec, an MPEG-4 video-compression technology developed by DivXNetworks. Currently there is no DivX codec for the Mac, but with the help of a couple of utilities, you may yet be able to play these movies.

OS 9 users should trip on over to <http://mac.divx.st/> download and grab a copy of Windows Media Player 6.3 (version 7 of Windows Media Player won't work) and DivX Player. This older copy of Windows Media Player, together with DivX Player's DivX Doctor command, may let you view AVI movies.

OS X users would be well served by visiting <http://projectomega.free.fr/contents/tuts/>. Here you'll find instructions for viewing AVI movies encoded with the DivX codec under OS X. If you don't want to mess with Mac OS X's Terminal application, pay particular attention to the section related to DivOSX Tool. This conversion utility works with the help of QuickTime 5.

But even with the Indeo codecs and the tools and links I've provided, you can't view certain AVI movies—the codecs used to play these files simply aren't available on the Mac. **m**

CHRISTOPHER BREEN is the author of the book *Mac 911* (Peachpit Press, 2002). Thanks to GEOFF DUNCAN for insights on FTP servers.

Share tips and discuss Mac problems with other Mac users in the Mac 911 forum (www.macworld.com/subject/mac911). Also send tips and questions by e-mail to mac911@macworld.com. *Macworld* pays \$50 for tips selected for publication in *Macworld*. All published submissions become the sole property of *Macworld*.

Shareware and freeware mentioned in *Mac 911* are available from ZDNet's Macdownload.com (www.macdownload.com).

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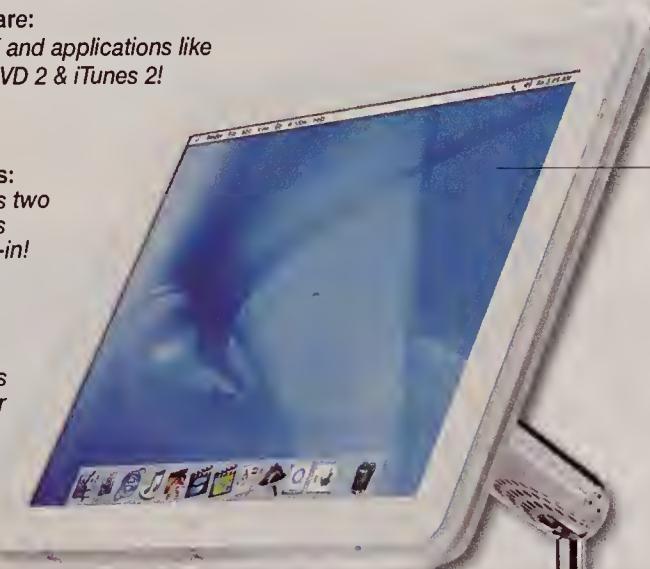
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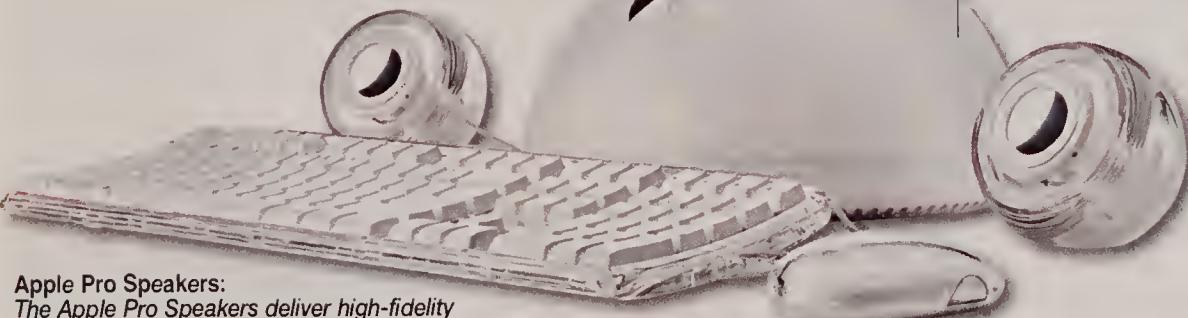
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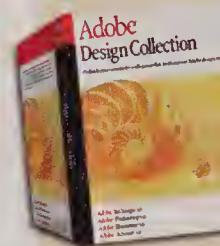


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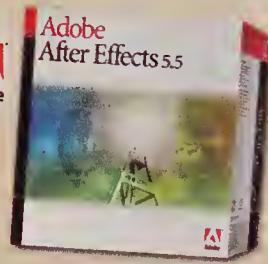


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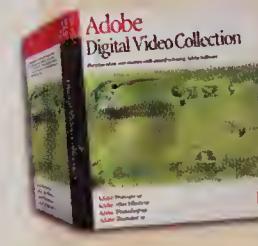


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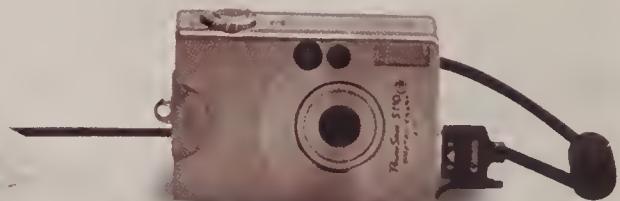
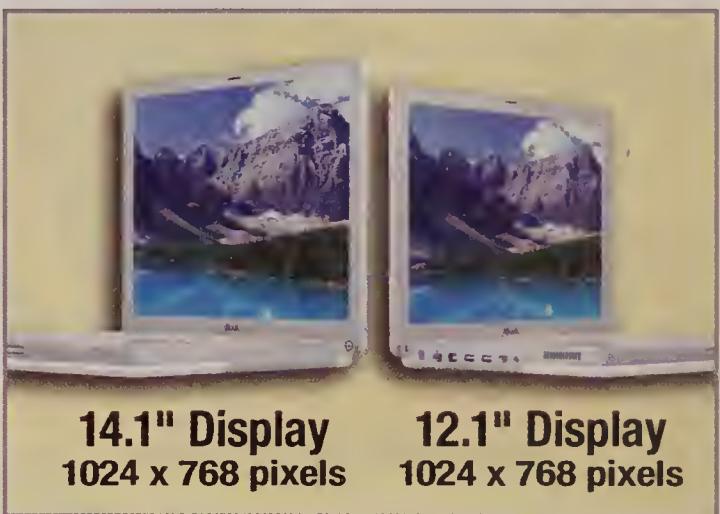
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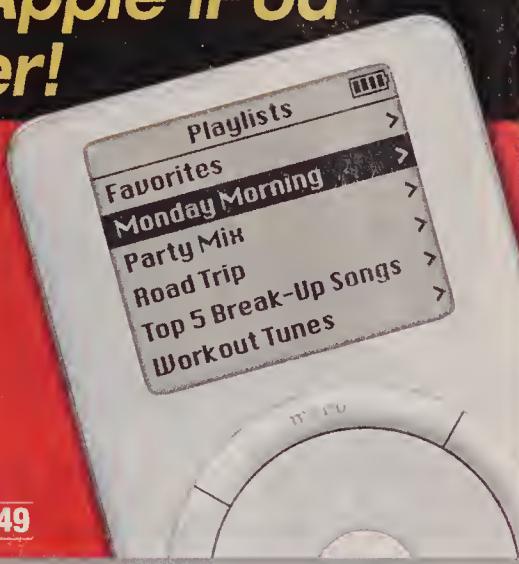


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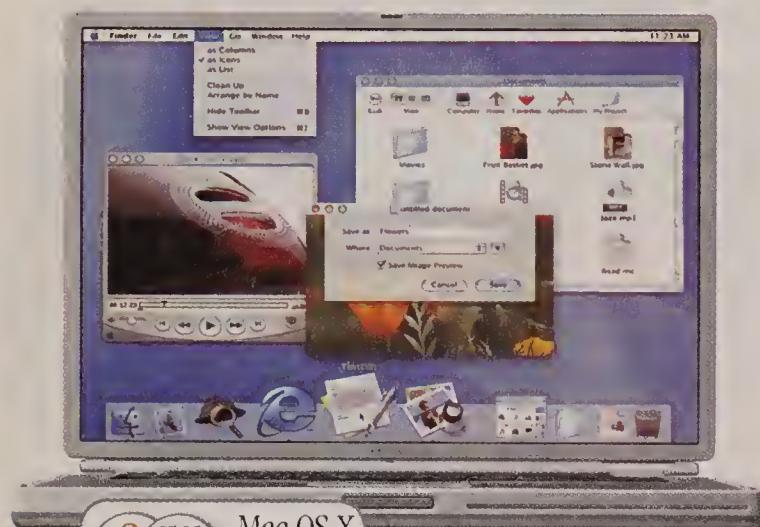
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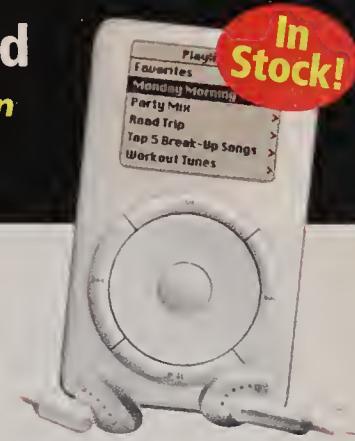
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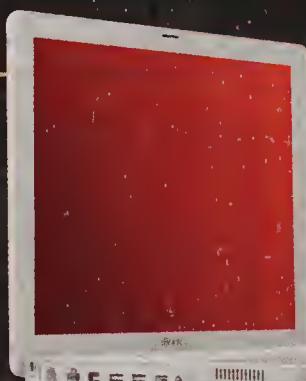


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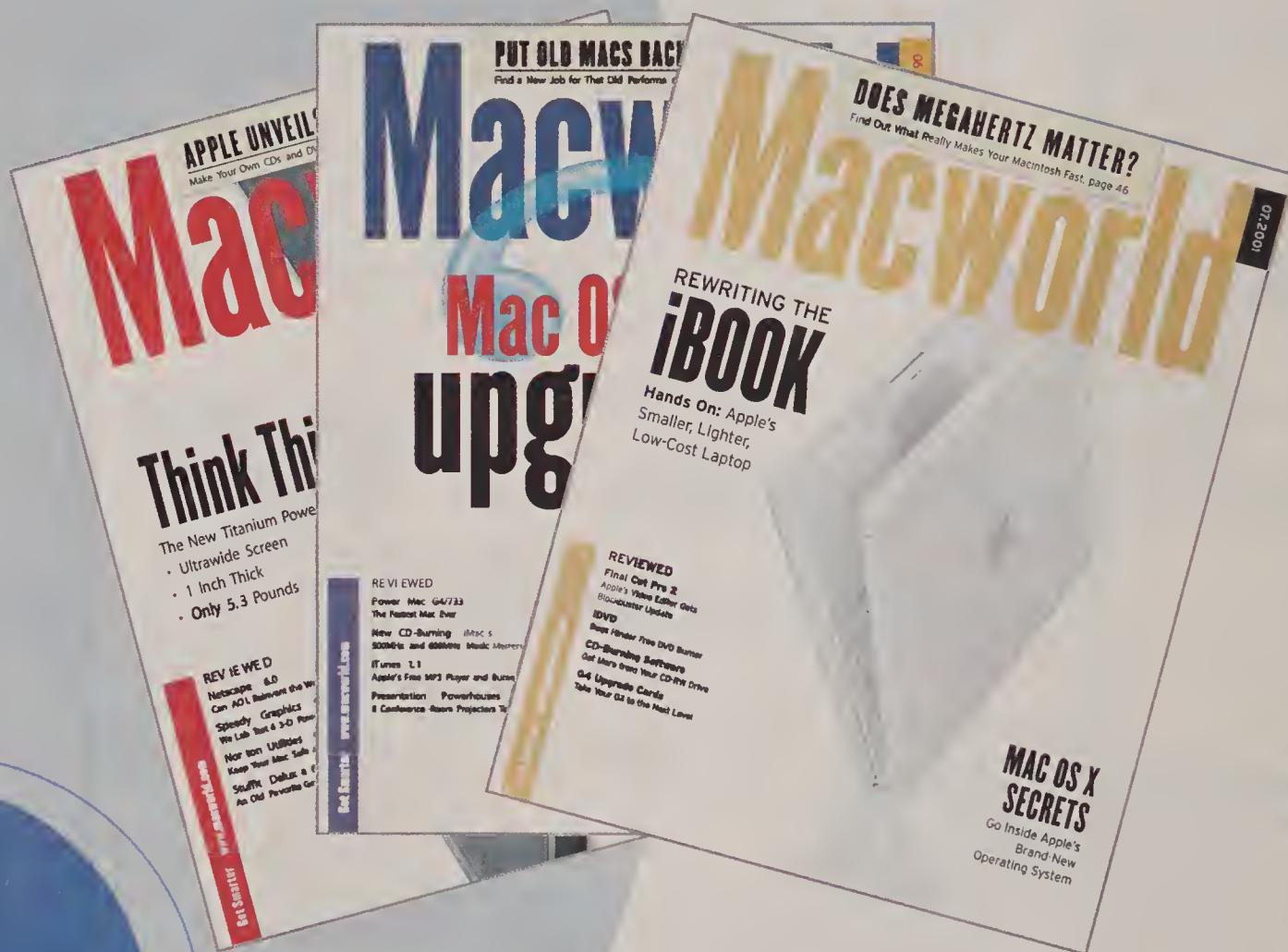
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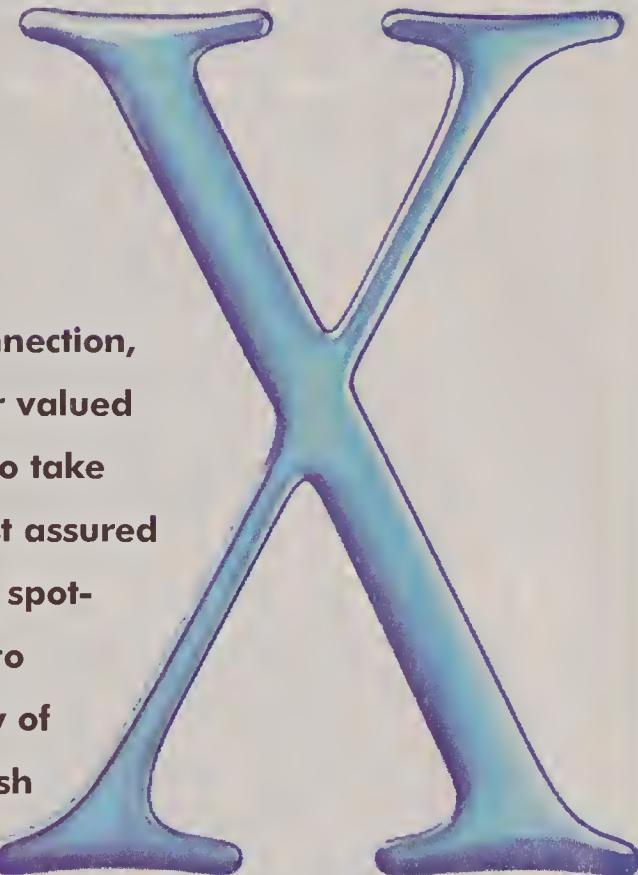
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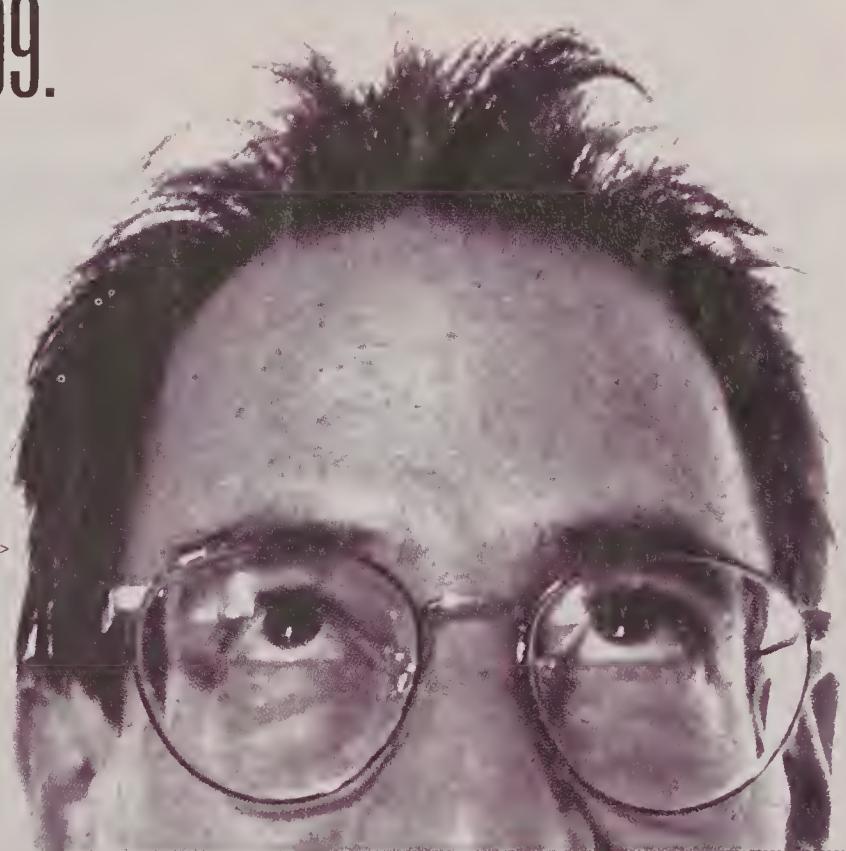


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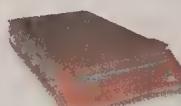
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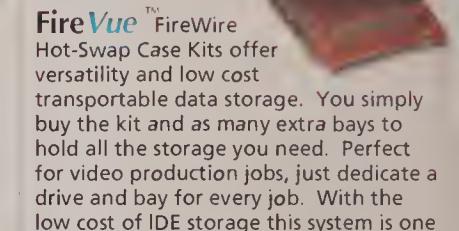
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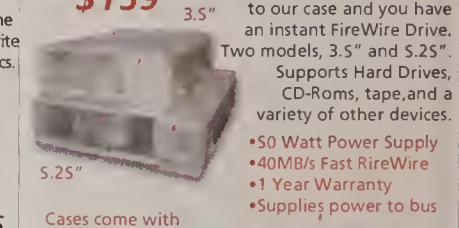
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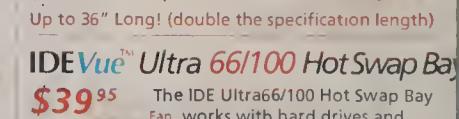
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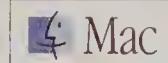
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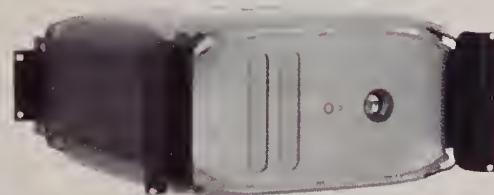
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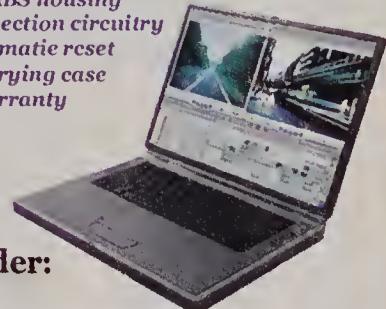


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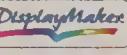
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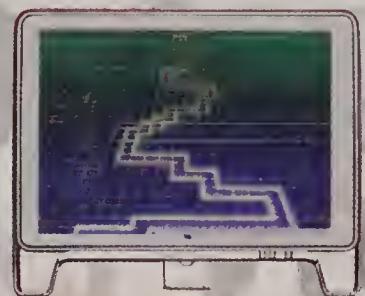
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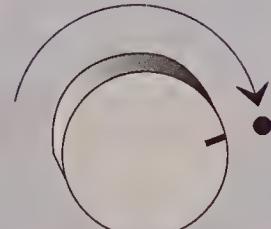
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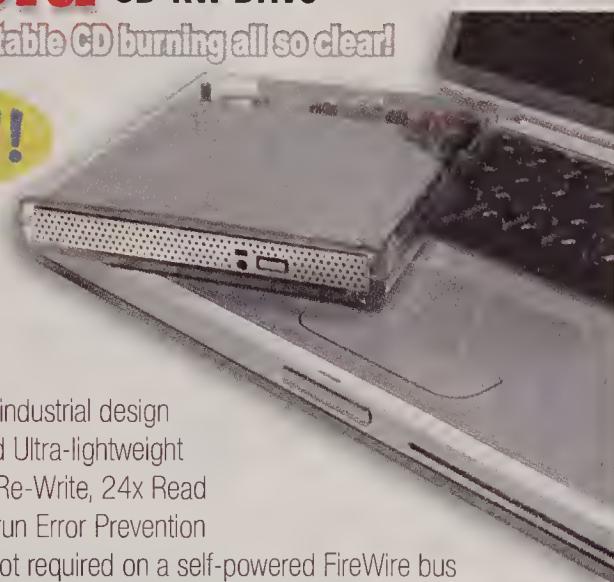
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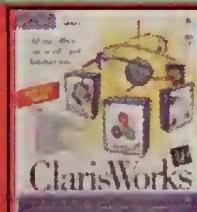
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rightly so. Yet could we possibly be expected to resist gadgets such as the onHand? In the struggle with incompatible Windows-only gadgets, what a friend we have in Virtual PC and Keyspan's USB PDA Adapter (\$39; 510/222-0131, www.keyspan.com)!

The Keyspan offering is a straightforward solution, with a USB connector on one end and a PC-standard, nine-pin serial connector on the other—and it simply works. In minutes, I had the onHand synched to my Palm; soon after that, it was telling time in binary code, with the help of a little freeware application I found on the Web.

A Use for Windows

And when the firmware for my handheld Global Positioning System gadget needed a bug fix, Virtual PC and the Keyspan adapter were there to run the Windows-only updater. When my niece came over with her new robot toy, Virtual PC and the Keyspan adapter were there to help us write software that made it attack the Badtz-Maru doll in my den. Yes, my Faith had done nothing to prevent me from flirting with Windows. Indeed, it let me embrace it and allowed me to see that there is good in everything, to understand that a spirit of Openness could help all of creation evolve into a unified whole.

Yet even as my heart felt the icy grip of Windows, I embraced my Faith ever more tightly, again like a wool pantsuit, only this time a nice, dry one with a nylon outer shell and an inner lining of moisture-wicking CoolMax. Casio has released a color wristwatch camera, a gizmo of such gloriously ambitious stupidity that I had to own it. But I couldn't get it to work under Virtual PC with the adapter.

I rashly saw this as a shortcoming of my Faith. But then I couldn't get the device to work on a *real* Windows machine, either. I tried every procedure imaginable, including throwing the watch on the floor and jumping up and down on it over and over and over again while shrieking dark threats in Urkskisich.

And then, as I stood there panting, I realized that with its spirit of Openness, my Macintosh had proved to be better than a Windows machine even at running Windows: unlike my Wintel box, my G4 was at least able to see the watch attached to its USB port and report that it was answering properly.

Faith manages.

And now, for our recessional, if you will turn to track 5 of the audio portion of *Phil & Dave's Excellent CD*, Brother Cleophus James will lead us all in "Power to Be Your Best." Go in peace. **m**

ANDY IHNATKO (www.andyi.com) has been writing about the Mac for over a decade, in publications such as *Macworld*, *MacUser*, the *Chicago Sun Times*, and *Playboy*.

FAITH, MY BROTHERS AND sisters, Faith is the enduring rock upon which our whole universe so soundly rests. It warms us when we are cold, lights the path ahead of us when we are in danger of going astray, and presses the Cancel button on the microwave oven of our soul when we are about to nuke the popcorn of our worries to the point where it stinks up the entire office and earns us a terse memo from HR about proper use of the universe's break room.

Yet sometimes we find our Faith tested. "What good is our Faith," we ask, "when there is great Windows in the world?"

This is not a sign of weakness, my friends. Sometimes it seems as though there is nothing *but* Windows all around us, tempting and seducing good men and women, luring them away from glory. We can't help but wonder how such things could happen to people who have Faith.

But our universe is a benevolent place: it gives us the freedom to forsake the forces of Windows and come to Faith with love, of our own free will.

The Watch Incident

Hear a parable about a time in my own life, when I was tested by a crisis of faith—a less significant, smaller faith with a lowercase *f*. One of my Millennium Falcon wristwatches broke, and because wearing the other one would've meant taking it out of its original box and destroying its Mint in Mint Packaging condition, I eagerly set out to shop for a new digital watch with as many bells and whistles as possible, my mind-set being that a digital watch is not a *proper* digital watch unless it has so many advanced features that it requires a second watchband, which upon closer inspection is actually a tiny bandolier of C batteries.

To my horror, I discovered that in the three years I'd been wearing the Falcon, not one step forward had been taken in making digital watches more complicated.

ANDY IHNATKO

Faith Manages

*There Is
Windows in the
World, but
Don't Give Up*



I rebelled. I kicked. In my view, manufacturers might as well have been assembling a golden calf while I was up in the high altitudes working on my Charlton Heston routine: "If that's how you honor your faith, then hie away from me!"

I cried. I raged. And then I transported myself bodily to a little tobacco shop in Brookline, Massachusetts, where in my wrath I did purchase a vintage stem-winding analog Timex, for its original 1978 sticker price.

Eventually, though, my faith in absurdly complicated wristwatches was rewarded. Frightened and shamed, those workers of iniquity—with an assist by Matsucom—delivered unto me the onHand wrist PC (\$299; 303/751-2453, www.matsucomusa.com). Yes, this watch is nearly as big as those bite-size Snickers bars passed out at Halloween. To this, I say

that being unable to button your sleeve is a small price to pay for a watch that brings the entire feature set of the original Palm Pilot—address book, calendar, notepad, desktop sync, beaming, a collection of great add-on software applications, and more—to your wrist.

The onHand has been a source of great strength for me, even allowing me to play Defender during a family wedding service, where bringing in even something as harmless as a PDA with cellular Web access might have been considered rude. I was in love.

Alas, the great Windows that weighs over the world like a wet wool pantsuit had engulfed the onHand, too, and no Mac version of the connectivity software was available.

But then uppercase Faith stepped in. Like you, my brothers and sisters, I had rebuked Windows. Yes, you know of Connectix's Virtual PC (\$99 to \$249, depending on configuration; 800/950-5880, www.connectix.com), but you have resisted the lure of Windows software, and *continues on page 143*

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